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ORIGINAL LECTURES.

MEDICINE IN THE UNITED STATES, AND ITS RELATIONS TO COÖPERATIVE INVESTIGATION.

The Annual Address in Medicine delivered before the British Medical Association, Wednesday, August 11, 1886.

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MR. PRESIDENT, AND GENTLEMEN OF THE BRITISH MEDICAL ASSOCIATION: You all know that the representative of the American medical profession first selected by your executive committee to deliver the Address in Medicine to-day, was the late Dr. Austin Flint, Sr., of New York, whose death last March is, therefore, a great and direct loss to you as well as to America. Every English physician knows Dr. Flint by reputation and through his writings; but only those few of you who were so fortunate as to know him personally, can fully appreciate the magnitude of the loss which the medical profession has sustained in his death.

This is not the time and place to attempt to pronounce a fitting eulogium upon him and his work, and I shall, therefore, only say that my deep personal sorrow for his removal is mingled with sympathy for the members of this Association, who have been thus deprived of the pleasure of hearing him state in person some of the results of his long and wide experience. The loss is not a total one, it is true, since he had, fortunately, completed his address on "The Medicine of the Future," which has been published, and has, no doubt, been read by all of you; but in this case the printed page is by no means a satisfactory substitute for the spoken word.

In accepting the request, with which I have been honored by your Council, that I should attempt to take his vacant place on this occasion, it is with a full understanding of my inability to fill it that I stand before you.

The request came at a time when I was hard pressed by official duties, and had neither leisure nor opportunity to undertake any special research; hence, to avoid violating one of my favorite Scotch maxims, viz., "That which you do not know, tell that not to any one," it was necessary to select some subject to which I had already given consideration, and which at the same time would probably be of interest to English physicians. Reflection on these restrictions soon brought the field of selection into narrow limits, almost into "a small intercept of space of one dimension," as a mathematician would say.

What is the significance of this invitation extended for the first time to a physician of another country, and that country the United States, to come to this annual gathering of the medical men of Great Britain and give the address in medicine?

Does it not mean recognition of the unity of medicine, of the utility of coöperation, of the fact that we have common interests, and that the time has come when it is desirable to hear from the outlying younger branch of the family with a view to mutual pleasure and profit in the future? So it seems to me; and I propose, therefore, to call your attention briefly to some points relating to the present condition and future prospects of medicine in the United States, and to the direction in which you may reasonably hope and expect from that country in the future the most useful coöperation in the improvement of medical science and art. I believe that these must be matters of interest to you, and that I can perhaps make clear certain peculiarities which do not seem to be as generally understood on this side of the Atlantic, as it is desirable that they should be, to insure sound judgment upon some of the results observed.

In the first place, permit me to call your attention to the fact that it is hardly possible to make any statements with regard to medicine in, or the medical profession of, the United States as a whole, which shall be definite and at the same time distinctive; that is, which will not apply almost equally well to medicine and the medical profession in other countries. This is due to the fact that there are great differences in the organization of the profession in different parts of America, so that what is true of one State would not be true of another; what is required as to fitness or qualification to practise in one place is not required in another; and the country covers so many parallels of latitude and meridians of longitude, making the conditions of life so diverse, and producing such differences in the prevailing diseases, that a man who is fairly qualified to practise in one section may be poorly fitted to treat the endemic diseases of another.

As in painting a picture, it is best to locate and define the shadows first, and deal with the lights afterward, let us begin by considering some of the things that American physicians complain about; in other words, some of their supposed grievances. One of these is that the profession is overcrowded; that there are too many doctors, both *in esse* and *in posse*, and that this is due to too low a standard of education, and to the want of legal restrictions as to the qualifications which shall give a man the right to practise. The feelings of some of our physicians on this subject are in full accord with those of the good old New England deacon who told the village scapegrace seeking admission, that "he thought the church was about full."

Now what is the number and distribution of medical men in America? Statistics gathered in 1883[1] showed that in the United States and Canada there were 90,410 persons calling themselves physicians, being in the proportion of 1 to every 600 of population. In Canada alone, there were 3487 physicians, or 1 to 1112 of population. If we take the figures of our last census, of 1880,

[1] Illinois State Board of Health Report, 1884.

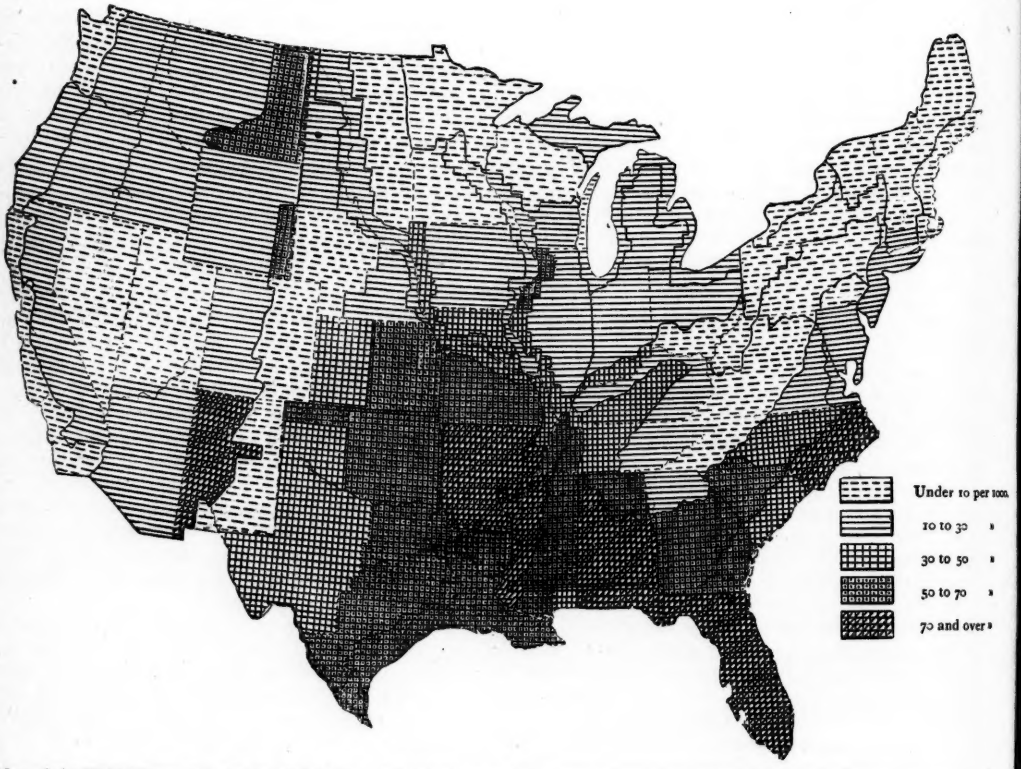
the proportion of physicians reported, is 1 to 589 of population, or 17 per 10,000. In England and Wales, by the census of 1881, the proportion of physicians is only 5.8 per 10,000, but these figures are not properly comparable with those of the United States, because they do not include unregistered persons. If the same classes were included that are counted in the United States report, I presume that the proportion would be about 9 per 10,000, or a little more than half that in the United States.

In the United States the proportion to the population of those who call themselves physicians varies greatly in different localities; thus, in Colorado there are 29.3, in Indiana 25.2, in Oregon 24.3, and in Arkansas 23.5 per 10,000; while in New Mexico there are only 6.6, in South Carolina 9.2, and in North Carolina 9.7 per 10,000.[1]

It is not easy to give satisfactory reasons for these differences; we can only say that they do not depend to any great extent upon local legislation. The proportion of physicians is generally lowest in the southern States lying east of the Mississippi, and highest in those regions where immigration has recently been active. If we compare, by localities, the proportion of physicians to the population with that of clergymen and lawyers, we find some curious differences. It seems that the lawyers in the United States number 12.7, while in England and Wales they are 6.6 per 10,000, but that on the other hand the clergymen are 14.6 in England and 12.8 in the United States per 10,000 of population. In many instances it seems that where the lawyers are most numerous the supply of clergymen is smallest. I believe that a fair proportion of physicians to population is about 1 per 1000, which is not far from the actual proportion in England, while the true proportion of practising physicians in the United States is about 1 in 750. We must admit then, that there is at all events no scarcity of physicians in the United States, and, as we have over eighty medical schools at work, besides a fair proportion of medical immigrants, there is no immediate danger of any interruption to the supply.

Let us now consider the second head of the complaint, viz., that the standard of education is too low. There is ground for this, considered with reference to some localities, but not for others. I said a moment ago that a man might be fairly qualified for practice in one part of the country and yet find himself at a loss in another. This needs a little explanation, which I can,

CHART I.



Map of the United States showing the distribution of deaths from malarial fever as compared with total deaths from known causes. Census of 1880.

[1] A map of the United States was here shown, on which the proportion of persons calling themselves physicians to the population in the several States was indicated by different shades of color.

perhaps, give most easily in connection with a map of the United States, which I here show you. This map, which was prepared for a very different purpose, indicates by different shades of color, the relative proportion of deaths reported as due to malarial disease to the total number of deaths in different parts of the country, for the census year 1879–80. You will note how comparatively light the tint is in the north and northeast, and how dark the shades become in the south and in the valley of the Mississippi, thus indicating the great differences which exist as to the prevalence and deadly effects of the malarial poison in different sections of the country. It is in some of these low bottom lands and swampy districts that we meet with cases of congestive chills and of malarial hæmaturia, cases in which the patient has been described as being "a mere appendage to a huge malarial entity, an incident of a miasmatic cataclysm." Furthermore, this strip of land bordering on the Gulf-coast is in the yellow fever zone, and has, heretofore, been repeatedly desolated by this pestilence.

As compared with the North and East, much of this malarious region is a thinly settled country, an almost purely agricultural country, and not a rich country. I need hardly tell you that the physician who has received his chief clinical instruction in the office of his preceptor in Vermont or New Hampshire, supplemented by distant glimpses of a few cases in hospital in Boston or New York, will find himself at a loss at first in dealing with the emergencies of daily practice in Arkansas and Mississippi. He will be subjected to influences which at times are dangerous to one who is not acclimated, and which tend to produce depression of spirits, want of energy, and bad health. He will not have free and constant access to scientific companionship, nor be stimulated by the influence of learned societies, and he cannot avail himself of the ordinary sources of amusement, education, and rest, such as art galleries, the drama, libraries, and museums, etc., which are found in the large cities. Moreover, the pecuniary reward which the practitioner in many of these places can reasonably hope for is comparatively small.

Taking all these things into consideration, it is clear that if a man after spending from six to eight years, and from one to two thousand pounds in acquiring such a general and professional education as it is now considered that a skilled physician should possess, then settles in such a region with the prospect of an average income of from £150 to £200 per year, it is not from pecuniary motives alone. There are such men in such places, men who are not only highly educated and skilled practitioners, but who are also original investigators and thinkers. It was within the limits of this malarial shadow that the foundation of modern gynecology was laid by Marion Sims, of abdominal surgery by McDowell, Battey, and Gross, of an important part of the physiology of the nervous system by Campbell. Nevertheless the rule holds good that malaria and science are antagonistic; the exceptions prove the rule.

Nor can the inducements for highly educated physicians to settle in thinly settled localities be made stronger by any form of penal or restrictive legislation. Any attempt to fix a standard of requirements or qualifications for practice which shall be the same for such rural districts and for the large cities and manufacturing towns, must result in the adoption of what competent judges would consider so low a standard as to be ridiculous and useless. The demands are widely different, and corresponding differences exist in the sources of supply—that is, in the medical schools.

There is a class of medical schools in the United States whose object is to give the minimum amount of instruction which will enable a man to commence the practice of medicine without much danger of making such serious and glaring blunders as will be readily detected by the public. There are other schools whose aim and object is to make fairly well trained practitioners; the general character of the instruction given in these being substantially the same as that given in your English hospital medical schools. The results of such a three years' graded course of instruction in medicine as these schools furnish, depend upon the character of the material upon which they work; that is to say, upon the general preliminary education possessed by the student at the time of his matriculation. This is evidently too often defective, and only a few schools have thus far ventured to establish any standard of preliminary examination which at all approaches in its demands that which is required in England.

The proverb that it does not pay to give a $5000 education to a $5 boy is clearly of American origin, and sums up a great deal of experience.

You have nineteen portals of entrance to the profession and have not found it easy to keep them all up to the standard. In America we have over eighty gates, a number of turnstiles, and a good deal of the ground is unenclosed common. Many of our physicians are more or less dissatisfied with this state of things and with the results thereof, and every year in some States efforts are made to secure legislation which it is supposed will protect the interests of the profession, though those who advocate such legislation are usually prudent enough to claim as their only motive a desire for the protection of the public.

Now, how does this free trade in medicine and the low standard of qualification or no standard at all required by law affect practitioners as individuals? To answer this we must divide the profession into several classes. In the first place, in all our cities, great and small, there is a large class of physicians who are as well educated and as thoroughly competent to practise their art, as can be found in the world. They have studied both at home and abroad, have had extensive clinical training, are always supplied with the latest and best medical literature and the most improved instruments, and many of them are connected with hospitals and medical schools. Among them are found the majority of our writers and teachers, and the successful men are the survivors of a struggle in which there has been keen and incessant competition. These physicians, whose positions are fairly assured, and who, as a rule, have all the practice they desire, are not usually active leaders in movements to secure medical legislation, although they passively assent to such efforts, or at least do not oppose them; and their names may sometimes be found appended to memorials urging such legislation. They are clear-headed, shrewd, "practical" men, who know that their business interests are not specially injured by quacks and ignoramuses—rather the contrary in fact, for they are called on to repair the damage done by the quack to people who have more money

than brains; and they are not inclined to risk the fate of the Mexican donkey who died of "*congojas agenas*" —that is, "of other people's troubles."

Then there is another large class of honest, hard-working practitioners who rely more on what they call experience and common sense than on book learning. Many of these have obtained assured positions of respectability and usefulness, and are comparatively indifferent to medical legislation so far as their own interests are concerned. Others, however, who are not so successful, feel the competition of the local herb doctor or of the travelling quack more keenly, and have more decided views about the importance of diplomas. Among these are the young men who have not yet acquired local fame, and who are apt to become very indignant over the doings of some charlatan in the neighborhood, or of some druggist who prescribes over his counter. These last are usually quite clear in their minds that the State ought to interfere and prevent injury to the health of the people.

I have known two unsuccessful physicians who finally abandoned practice and who gave as a reason for their failure—one that "he did not know enough," and the other that "he had not the manners and tact which would inspire confidence in his patients;" but such frank-speaking men are rare.

Thus far, as a rule, the efforts which have been made to secure legislation upon medical matters in America have come from the profession itself and have been chiefly urged and recommended by physicians. The general public, and even the educated public, has shown very little interest in the matter. It does not demand protection against ignorance, but entrusts the care of its health and the lives of those who are nearest and dearest to it to almost any one who announces himself as prepared to take charge of them. The number of those who profess to practise medicine in the United States and are not qualified to do so is undoubtedly large, though by no means so large as one might suppose after listening to the impassioned eloquence which is duly aired every year upon the subject. There are some advertising charlatans, and travelling quacks are occasionally to be met with, but they are rare.

The most rigid tests of qualification, in our profession, in the United States are those required of candidates for admission into the medical departments of the army and navy. The standard established for these is about the same as that for the corresponding corps of the English army and navy; and of the candidates who apply, from seventy to eighty per cent. are rejected.

Certainly we must admit that this percentage indicates an unsatisfactory state of things. But what evidence have we as to its results upon the health and life of the people? What shall we take as the measure of the difference of skill in physicians? The death-rate? If we compare the death-rate of the United States with those of other civilized countries, we find that it is as low as any with the exception of Sweden. Does a low death-rate mean better sanitary condition or more skill among the doctors? For the last twenty years the death-rate has been diminishing in England; the average amount of life for each person here has been increased, but I observe that the sanitarians claim this as proof of the value and importance of their efforts, and that nothing is said about its being in any way due to increase in medical skill or to improvements in medical science. Evidently this test is not a convincing one. Almost the only matter in which figures seem to demonstrate the importance of superior medical education and skill is in the statistics of deaths due to childbirth and of the results of surgical operations.

The proportion of deaths from childbirth to the number of births is decidedly greater in the rural districts than in large cities, and among the colored than among the white population. If this difference were found only in the United States statistics, it might be accounted for by the differences in the trustworthiness of the sources from which the data are derived; but we find similar differences in England, and we must admit that these are probably largely due to the fact that in cities labor cases receive more prompt and efficient professional care than they do in the country. I need hardly call your attention to the results of antiseptic surgery, or of modern abdominal surgery, as compared with those of twenty-five years ago. Here there can be no question as to the improvement. It is well to remember in this connection that whatever undue prolongation of disease or unnecessary mortality is due to want of skilled medical treatment occurs mainly among the wage earners, the farmers, mechanics, salesmen, needlewomen, etc., and not among the rich, nor yet among the very poor.

Now, seeing that really efficacious legislation with regard to medical education or to the practice of medicine must, like all efficacious legislation, be substantially in accord with public opinion, since it is impossible to continue to punish for any length of time that which public opinion does not condemn; and as the great mass of the people of the United States have not as yet had such evidence as they can understand, and which would thoroughly convince them that it is to their interest to suppress quackery, it follows that it is necessary to go slowly and to allow such evidence to accumulate.

To me it seems that the most important of the first steps to be taken in this direction is one which has already been taken in Great Britain—namely, the requirement that every death in the community shall be registered, and that in such registration satisfactory evidence shall be given as to the cause of death, sufficient at least to prove that such cause is what is known as a natural cause—that is, that it is not due to crime. When it is admitted that one of the duties of government is to provide for such registration, both in the interests of life and to secure the rights of property, it follows, necessarily, that those persons whose certificates as to the cause of death are to be accepted as satisfactory evidence that there has been no foul play, must present evidence that they are properly qualified to make such certificates. The principle is precisely the same as that which induces a government to provide for the examination of the medical men whom it employs in its army and navy.

So far as the art of medicine is concerned, the demand has much, though by no means all, to do with regulating the quantity and quality of the supply; and there are few localities in the United States where the qualifications of the medical man is not fully up to the standard which the community is able to appreciate and is willing to pay for. In the natural order of things, suffering and death are the remedies for ignorance, weakness, and vice, and the means of preventing the transmission

of these characteristics to offspring. These remedies, though effectual, are drastic, and we do our best to avoid them, but perhaps it is well that the penalties cannot be done away with altogether.

The laws regulating the practice of medicine in the United States are all State laws. If we were to judge only from what may be found in the statute books, assuming that all the laws contained therein are duly enforced, we should find that nearly two-thirds of the States have laws ostensibly regulating the practice of medicine within their borders. As a matter of fact, however, in over half the States which have laws on this subject no attempt is made to enforce them, and in almost all of them the possession of a diploma, no matter from what source derived, is all that is required.

Of the various methods which have been tried in different States to insure by law that physicians shall be properly qualified, I will call your attention to two which are of special interest.

The first is that of Alabama, the principle of which is to organize the whole medical profession of the State, and use it as the means of regulating the qualifications of practitioners and of caring for the public health. The Medical Society of the State of Alabama with its branches, the county medical societies, thus forms a part of the machinery of the Government; it appoints boards of medical examiners, selects State and county sanitary officials, supervises the registration of vital statistics, the administration of quarantine, etc.,—in short, it is the State Board of Health, and the county branches are the county boards of health.

In this State the possession of a diploma does not give the right to practise, it simply enables the owner to go before the examining board. The examinations before the County Board are partly in writing, and are subject to review by the State Board, which has in some instances publicly condemned the local examinations as not sufficient.

This system has now been in operation nine years, and has gradually been consolidated and improved by educating local boards, and getting all physicians interested in it, until it is now working fairly well. Much remains to be done, and it is too soon to predict results; at present, the success of the system is largely due to the wisdom and energy of one man, who has given his whole time and labor to the work, and it remains to be seen whether the machine which he has built will work well without him.

The second system to which I will call your attention, is that of the State of Illinois, which was commenced in 1877, or about the same time as that of Alabama.

In Illinois any one who presents a diploma, or license to practise, from a legally chartered medical institution in good standing, is entitled to practise, and the State Board of Health is to decide as to what shall constitute "good standing." The Board of Health also examines all persons who do not possess satisfactory diplomas, and who nevertheless wish to practise in this State.

One of the greatest practical difficulties in the way of providing any system of State examinations in medicine in the United States, is that public opinion will not support any law which can be supposed to condemn or in any way to injure homœopathic and eclectic practitioners or their schools, and hence any proposed law relating to medicine, or to the organization of State boards of health, which does not recognize the existence of these sects will, in many States, at all events, meet with enough opposition to defeat it. In Illinois this difficulty was surmounted by the arrangement, that of the five physicians on the Board, one should be homœopathic and one eclectic. The Kansas law, passed last year, goes further in this direction, and provides that appointments must be so made that no school of medicine shall ever furnish a majority of the members of the Board. Much to the surprise of many, the Illinois plan has worked very well—there has been no quarrelling in the Board—and the homœopathic and eclectic members seem to have upheld quite as high a standard of qualification as their fellow members. The results of the work in Illinois have been very good. A large number of ignorant charlatans were forced to leave the State. The requirements of the Board as to what shall constitute a medical college in good standing have been raised, and it has thus caused improvement in the medical schools, not only of Illinois, but of other States. Moreover, the neighboring States have been stimulated to action, not only by the force of example, but because they received the men who had been driven out of Illinois, and found the accession an unpleasant one.

As in the case of Alabama, it is too soon to judge definitely of the results; and in Illinois, also, the satisfactory working of the system is largely due to one man, the Secretary and executive officer of the Board, who has given his entire time to the work. I do not, by any means, wish you to suppose, however, that I consider this as being a serious objection to this or any other plan, for in the building up of any organization, or the carrying out of any system, much must always depend upon some one man.

The relations of the United States Government to medical education and to the practice of medicine are indirect only, the regulation of these matters by law being part of the police power which, under the constitution, is reserved exclusively to the individual States. The United States employs physicians in its Indian Department, in the Pension Department, in the Marine Hospital Service, and in the medical departments of the army and navy, and it has power to regulate the practice of medicine in those territories which are not yet organized into States, and also in the District of Columbia; but thus far it has made no use of such power. The qualifications of physicians employed in the army and navy and in the Marine Hospital Service, are determined by examinations made by boards of medical officers belonging to those services. The possession of a diploma from a respectable medical college is a prerequisite for such examination, but beyond this it does not count; that is to say, the examination is the same for the holders of all diplomas, and covers all branches of medicine. But while the relations of the general government to medical education are thus indirect, they have of late years become of very considerable practical importance, and are now exerting much influence upon medical investigations and literature. This is being effected by the museums and libraries which are now being formed under the auspices of the government at Washington, and also, to some extent, by certain special investigations undertaken by the government in the interests of preventive medicine. Of these various agencies one of the most important is the library which

has been formed at Washington, under the auspices of the medical department of the army in connection with the Army Medical Museum; both of these institutions being a part of the results of the late civil war. The museum was at first formed to illustrate military medicine and surgery, giving the results, primary and secondary, of injuries inflicted by modern weapons of warfare and of the diseases of armies in the field; in which direction the collection is unrivalled in extent and completeness. Gradually its scope has been enlarged to include illustrations of anatomy, development, and all branches of pathology and therapeutics, so that it is fast becoming a museum covering the whole field of medical science. In like manner, the library, which commenced in a collection of those books relating solely or especially to military medicine and surgery, which were required in the compilation of the *Medical and Surgical History of the War*, has expanded into a great medical library, which is now one of the best practical working collections of the kind in the world. These collections, then, no longer appertain exclusively, or chiefly, to the business of one department, but belong to the whole profession of the United States as a body; and the department which has charge of them is managing them from this point of view. The influence of the library in stimulating research, and upon the quality of medical literature, is already very perceptible, and is destined to increase with advancing years. I think I may also venture to claim that the utility of these collections, and especially of the library, is by no means confined to the medical profession of the United States, for the catalogues and indexes which are being issued in connection with them, are of service to medical writers and teachers all over the world.

As regards investigations into the causes of disease, undertaken at the expense of the general government, only a beginning has as yet been made; but it is sufficient to indicate future possibilities and probabilities. The main importance of the work of the National Board of Health, which was organized in 1879 under the stimulus of the great yellow fever epidemic of the previous year, was due to investigations upon the causes of yellow fever and diphtheria, the relations of soils and of water-supply to certain diseases, etc., investigations of the same general character as those which are being prosecuted under the auspices of the Local Government Board in this country, and of the Imperial Board of Health of Germany. It is true that owing to circumstances which I cannot here explain, the work of the National Board of Health has been stopped; but there is every probability that it will be resumed, with perhaps some change of organization, at no distant day, and I need not dwell upon the vast importance to medical science of organized and systematic work in this direction. Similar investigations have been undertaken by State boards of health, and especially by the State Board of Health of Massachusetts, and the fact that governmental health departments are tending to work in this direction is significant as to future coöperation from such sources.

In this connection should be mentioned the National Museum of Hygiene, which has been formed under the direction of the medical department of the United States Navy, which is now one of the most instructive collections of the kind in the world, and has also connected with it an excellent library and a well-equipped laboratory.

Comparative and experimental pathology is also receiving attention from the Government under the direction of the Department of Agriculture, which is doing some good work in the investigation of the diseases of our domestic animals. Our investigators are, fortunately, not hampered by antivivisection laws, and there is little danger that they ever will be, for though we have our due proportion of fanatics and seekers of notoriety who wish to emulate the British Antis-, their true motives are so well understood that they have little power to do mischief.

Of medical associations in the United States there are several classes. We have a few local societies, analogous to clubs in their organization, which own property in the form of buildings, libraries, etc., are somewhat conservative in their selection of members, and are only to be found in large cities. Of these, the College of Physicians of Philadelphia is the oldest, and has the largest and best library and museum—it will celebrate the hundredth anniversary of its existence next year. In New York the Academy of Medicine, and in Boston the Medical Library Association, are of the same character, and, in general, each large city has a similar society, although as yet they have not become fully anchored and established by the acquisition of property. The second class includes local societies devoted to specialties, such as pathology, obstetrics, etc. These also are found only in large cities, and as yet are few in number. Four of them only have published transactions. Corresponding with these are national societies devoted to specialties such as gynecology, ophthalmology, surgery, pathology and clinical medicine, etc. These societies meet annually, elect their own members, exercising care in the selection, and publish valuable transactions.

Another class is composed of the county medical societies, which strive to include all regular practitioners residing in their precincts. From these are sent delegates who form the State medical societies and the American Medical Association. The mode of organization varies somewhat in the different States, but the representative principle prevails in all. Most of these societies publish transactions, and the American Medical Association now has its journal.

As to the condition of medical science and art in America, it partakes of the general progress, for the press now makes all discoveries the common property of the civilized world. The marked feature of the present epoch is the recent advance in knowledge as to the relations between microörganisms and certain diseases, and the strong stimulus which this has given to preventive medicine. Sanitation is becoming fashionable, and if we may believe some of its votaries, it is a very simple matter to prolong the average lifetime to the scriptural "three score years and ten." All that is necessary is that everything shall be clean, and every person virtuous.

Having learned to distinguish those diseases which can be prevented much more easily and certainly than they can be cured, we may turn them over to the sanitarian, who has his own battles to fight with ignorance and prejudice. If he succeeds, and so far as he succeeds, he will change, in certain respects, the work of the practitioner.

The lives which are saved from cholera and typhoid, from consumption and diphtheria, and from the acute specific diseases, will, at last, be weakened and destroyed in other ways. The work of the physician will not be lessened by preventive medicine, it will simply be required more for older persons, and for another class of diseases. As sanitarians must depend upon practitioners for much of the information which is essential for their work, it follows that if preventive medicine is to become a working power, it will bring the mass of the profession into closer relations with the State than its members have held heretofore. What these relations shall be is one of the most interesting, and, at the same time, one of the most difficult, of the many problems with which we, or our successors, must deal. I have referred to some experiments on this subject which are now being tried in America, where it is much easier to make such trials than it is an older country hampered with vested interests.

Just at present, in this, as in a number of other things, our tendency is toward centralization, both in the several States and for the whole country, and it is not improbable that we may go far on this road in the future.

I come now to the consideration of the second part of my subject, namely, the direction or manner in which we have reason to hope that medicine will be developed in the United States, and the kind of coöperation which you may reasonably expect to receive from the medical profession of that country.

A marked feature of the present day, in medicine as in other things, is the tendency to specialization in study and in practice. But this very development of specialties, of increasing minuteness in the division of labor, increases the necessity for coöperation, and in fact tends to create what we may call the specialty of coöperation. Formerly a rifle, or a watch, was made by a single workman. No two instruments were exactly alike, each piece had its own individuality and was not interchangeable, and the cost of the whole was such as to put it beyond the reach of the multitude. Now, the work on these things is greatly subdivided, one man makes only one small wheel, or spring, or pinion, and another another, each doing his work according to a uniform pattern, rapidly, perfectly, and at comparatively small cost.

But, in addition to the workmen who make the individual parts, it is now necessary to have one person specially skilled in making drawings and preparing patterns, another to assemble the completed parts, and a third, to test the whole after it has been put together. As the centrifugal force increases, the centripetal power must also increase.

In one sense medicine, as we have it to-day, is the result of coöperation, not of deliberate, centrally planned and direct coöperation, but of natural selection from results produced by many men, often working at cross purposes and, therefore, wasting much energy, but nevertheless working, though blindly, to a common end. And it is safe to predict that in the future much of the best work will be done in the same way, by individual effort inspired by the love of science, by personal ambition, etc. But the results obtained in this way come slowly, and some things that we want can hardly be obtained by individual effort, even if we were willing to wait, hence we must look to organization for help.

This is an age of machinery, of exchanges, of corporations, for all these correspond to one and the same fundamental idea. Men make machines to do what the individual cannot do, and they make them not only of brass and iron, but of men, for such an obvious source of power to the man or men who can master the combination is not likely to be overlooked. One result of such organization is seen in our encyclopedic works on medicine, whether these be called dictionaries or handbooks; another in the great medical journals; another in associations which seek to wield political influence; another in the comparatively recent attempt at collective investigation of disease. With these may be classed also the attempts of Government departments to make scientific investigations, to collect libraries and museums, to do things which require long continuity of effort on a definite plan in order to produce the best results.

And it is by the combination of all these, with the efforts of individual workers, that substantial advance and improvement are to be effected.

In this broader view of coöperation it is interesting to consider those fields of labor to which comparatively few physicians can devote themselves, because of want of time and opportunity, but whose proper working is, nevertheless, of the greatest importance to the practitioner.

One of these is experimental laboratory work, and in this direction the prospect of valuable contributions from America is now exceedingly good. Some of the wisest of our most wealthy men have shown their appreciation of the responsibilities which riches entail on their possessors by seeking new channels through which to benefit their fellow men. While the old and well-known methods of endowing hospitals and charitable institutions are not neglected, there is apparent an increasing tendency to endeavor to promote the advancement of knowledge, and especially of such knowledge as tends to the mitigation of suffering and the improvement of the race, to furnish means for the investigation of disease, to provide laboratories, and to endow medical schools and thus place them beyond the reach of the temptations and difficulties which must always exist when such schools are dependent upon the fees of students, and are, therefore, practically commercial manufacturing establishments.

As illustrations of this tendency, I may mention the bequest of £1,400,000 by Johns Hopkins to endow, in the city of Baltimore, a university and a hospital of which the medical department is to be a special feature, to be provided with the best laboratory and other facilities for original investigation as well as for teaching; the gift of Mr. Carnegie to the Bellevue Hospital Medical School of New York in the shape of a well-equipped pathological laboratory; the presentation by Mr. Vanderbilt, and members of his family, to the College of Physicians of New York, of £200,000, to provide for that school new buildings and clinics having the best means of teaching and research, and the endowment by an unknown donor, of a laboratory for the University Medical College of New York, with the sum of £20,000.

Last year, in his retiring address as President of the New York Academy of Medicine, Dr. Fordyce Barker referred to this tendency to regard wealth as a trust to be used for the benefit of humanity, and after sketching

the requirements of the Academy on a scale which would require an endowment of at least a million of dollars, predicted that such an endowment would be furnished by wealthy citizens of the city. I believe that he was right, and that his prediction will become history.

As the class of men who have wealth, leisure, and knowledge becomes greater, there comes an ever increasing demand, not only for the best medical skill, for the most expert practitioner, but also for exhaustive research in every direction which promises to furnish new means for the prevention or relief of suffering, and for warding off, as long as possible, the inevitable end; and hence there is little reason to doubt that the examples I have named will be followed by others in the near future. With such opportunities, and under such conditions and influences, the stimulus to the young and ambitious worker is strong; we have abundance of material of this kind upon which the process of natural selection can operate, and there is little reason to doubt that the result will be substantial and valuable contributions to physiology, pathology, and therapeutics.

I have already referred to some of the work which has been undertaken by the United States Government for the benefit of medicine and of the medical profession in the formation of a library, and the providing of means of assistance in bibliographical research. There is another most important means of advancing medical and sanitary science which only a Government can furnish, and in which field of work England now stands preëminent—I refer to vital statistics. In this field, the United States Government has thus far done but little, yet enough to show the great interest and value of what we have a right to hope will be done in the future by combining the work of the several States. This is one of the fields in which international coöperation is most desirable; it alone can furnish data sufficiently complete and reliable for a scientific consideration of the relations of disease to geographical and race distinctions.

Geographical pathology is a very old branch of medicine, as old, at least, as Hippocrates, whose treatise on airs, waters, and places is justly famous. Permit me to remind you of its opening clauses. "Whoever wishes to investigate medicine properly should proceed to consider the seasons of the year and what effects each of them produces, the winds, the qualities of the waters, the situation and exposure of the city, the character of the ground, and the mode of life of the inhabitants." Then, says the wise old Greek, "From these things he must proceed to investigate everything else."

There is a breadth of view in that last sentence which is particularly satisfactory. Since the days of Hippocrates there has accumulated a vast amount of literature relating to the supposed connection between the topographical peculiarities of different cities and countries, and the diseases which prevail in them, but when the books and essays which come under the heading of "Medical Topography" are examined, it will be found that the topographical part is much more complete than the medical—which last is mainly confined to the consideration of malarial diseases, and is vague and indefinite with regard to their relative prevalence.

Much the larger part of our really valuable information on this subject has been obtained within the last twenty-five years, as Prof. Hirsch points out in the preface to the recent edition of his very valuable handbook of geographical and historical pathology, and while the contributions of the United States to this branch of medical science have been already important, I hope to be able to show you that they are probably destined to be of steadily increasing importance in the future. Considered, as a body, the opportunities of the medical profession of the United States for the study of the manifold influences which can cause, modify, or prevent disease, are in some respects unequalled. As regards peculiarities of climate, soil, altitude, etc., the country is so large as to afford almost every variety of combination, so that nature may be said to be making a series of experiments, on a grand scale, upon the mass of humanity which is so rapidly increasing in the new world. Especially is this the case with regard to the problems of heredity as connected with the mysterious relations of certain forms of disease to race. America is at present the great mixing bowl into which are pouring streams of human life from origins the most diverse, from regions the most remote. Black and white, red and yellow, long skulls and short skulls, Celt, Teuton, and Slav are being brought together under similar conditions of climate, food, and occupation, thus permitting of the comparison and study of the different effects, if such exist, which result from variations in parentage under conditions of exposure to the same causes of disease.

For a little time, a generation or two at least, the different streams remain pure, then there is more or less mingling, in some cases very little, in others very intimate, but always there is an opportunity of studying the races separately, as well as of investigating the results of their various mixtures.

To illustrate the possibilities in this direction, I will call your attention to some peculiarities in the distribution of deaths from certain causes in different parts of the United States, and for this purpose I shall make use of the data from our last census, taken in 1880. We have no general and uniform system of registration of births and deaths. The larger cities, and about half a dozen States, have such a system, but for much the larger portion of the country the only means which we have for determining differences in amount or causes of mortality in different localities is through the census, which is taken once in ten years. The data thus obtained with regard to deaths are imperfect, because when these are collected, only at the end of the year, about thirty per cent. of the deaths are unrecorded; and they are inaccurate, because the reports of the causes of death are not furnished by persons competent to give reliable information with regard to them. Nevertheless, these data are the best that we have, and although for a large part of the country they do not give us the actual number of deaths from any cause or set of causes, they do furnish some interesting information with regard to the relative prevalence and importance of certain causes, and suggest questions and lines for future investigation, although they do not furnish definite and scientific answers.

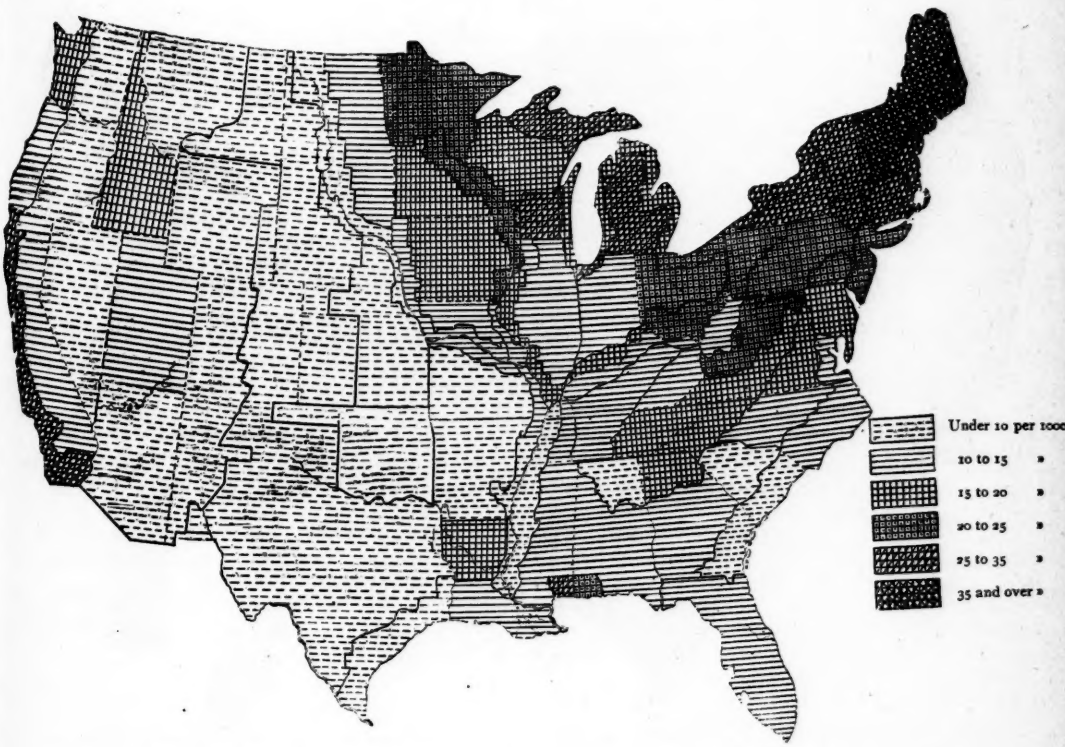
Take, for instance, this map of the United States upon which, by varying shades of color, is shown the proportion of deaths reported as due to cancer, as compared with the reported deaths from all causes. Cancer, using the term in its broadest sense, is a disease which seems to be gradually increasing in frequency among

civilized nations, and, possibly, to have a tendency to increase with the advance of civilization.

In England and Wales the proportion of deaths from this cause seems to have nearly doubled within the last twenty-six years, and a similar rate of increase can be made out in certain parts of America. How far this increase is a real one, and how far it is due simply to improvement in diagnosis, is a question yet unanswered.

The mortality from cancer in the United States is proportionately greatest in the New England States, somewhat less so in New York and Pennsylvania, and it causes the least proportion of deaths in the Mississippi Valley and the South generally. The proportion you, is that a large proportion of deaths from cancer indicates, to a certain extent, that the locality in which it occurs is a healthy and long settled one, since it has probably a relatively large proportion of inhabitants, and especially females, of an advanced age. But another explanation of the peculiar shading of the cancer map is found in the relations of race to the tendency to death from this disease. The proportion of annual deaths from cancer per hundred thousand living population was, in round numbers, twenty-eight for the whites, and thirteen for the colored. That is to say, cancer is more than twice as prevalent among whites as it is among colored in the same localities, for these figures

CHART II.



Map of the United States showing the distribution of deaths from cancer as compared with total deaths from known causes. Census of 1880.

of deaths from cancer in the United States is somewhat greater than it is in England; but it is not possible to make any accurate comparisons in this respect. Now why are the shades on this map so dark in the northeast and so light in the south? In the first place, cancer is a disease the mortality from which steadily increases with advanced age, as you may see from this diagram. Hence, cancer causes a higher proportion of mortality in those localities which have the greatest proportion of population living at advanced ages, and in the United States these localities are the New England States, as you will see by this map. One deduction from this which may perhaps not have occurred to all of apply only to the South. On the other hand, cancer appears to cause a greater proportion of deaths in persons of Irish and German parentage, than it does among the rest of the white population, the indications being that between the ages of fifteen and sixty-five the Germans are especially liable to cancer; more so than the Irish, and decidedly more so than the average white population. Now when we remember that the greater part of the colored population is in the South, and the greater part of the Irish and German population is in the North, we have another reason for the differences in mortality caused by this disease in the two sections.

Again, take this map, showing the distribution of the

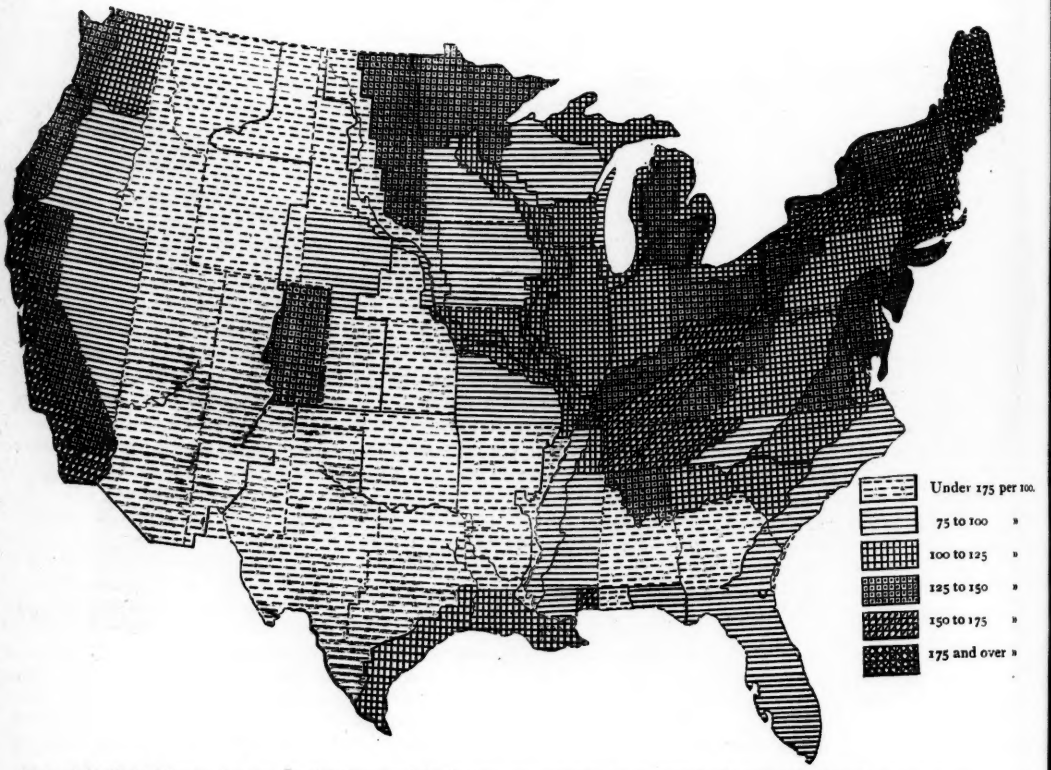
deaths from scarlet fever during the census year. You see that this also was most fatal in the North, and, here again, the influence of race comes in, because in the negro race the mortality from this disease appears to be very low. This disease has always been much rarer in the South than in the North, and the contrast was much stronger in former years than it is at present; but this cannot be explained solely, or even to any great extent, by difference of temperature, because scarlet fever has often been epidemic in the tropics, and, on the other hand, in many localities in temperate climates it is among the rarest of diseases.

again the influence of race comes into the problem, although, probably, only indirectly; that is to say, it is probable that it is the habits of a peculiar class of people which favor the propagation of the disease rather than any physical peculiarities in the structure of their bodies.

Two more illustrations of the geographical distribution of disease in the United States may be of interest in this connection. The first is that of consumption, the second, of pneumonia.

Consumption is a vague term, and, as used in the census, no doubt includes many cases which were not

CHART III.



Map of the United States showing the distribution of deaths from consumption as compared with total deaths from known causes. Census of 1880.

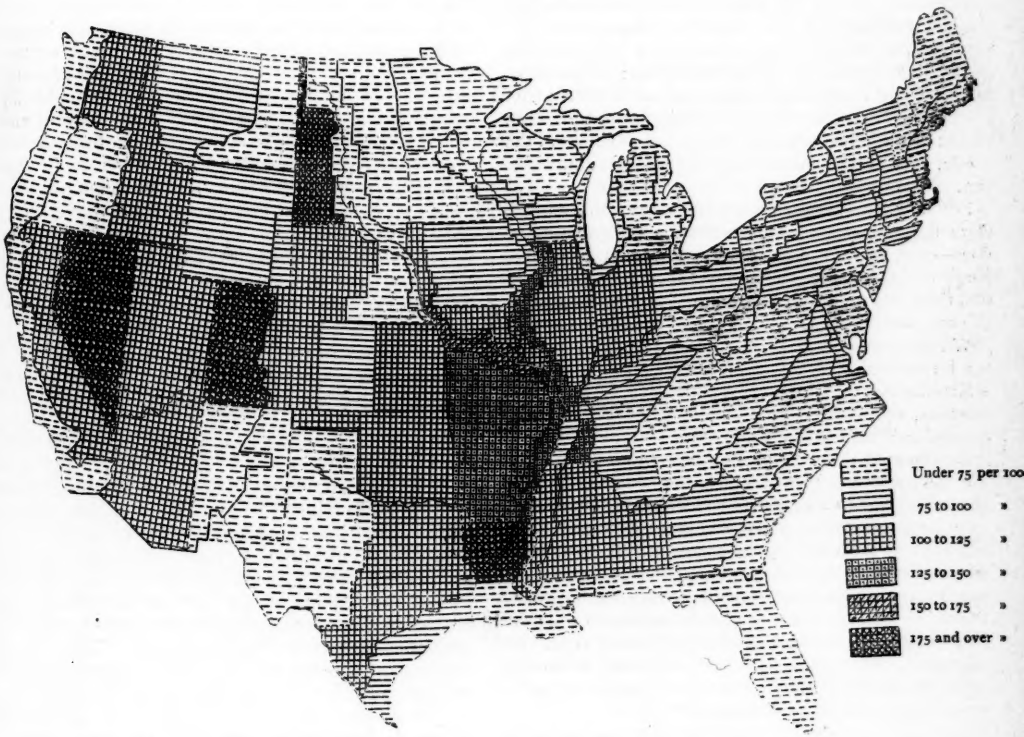
Here is another map showing the distribution of deaths reported as due to diphtheria during the year. Diphtheria is a disease which has been unusually prevalent in the northern portion of the United States for several years. During the census year it caused 2374 deaths out of every 100,000 deaths from all causes, while in England, for the year 1880, the deaths from diphtheria were 532 per 100,000 deaths from all causes; that is to say, the comparative mortality from this disease in England was less than one-fourth that of the United States for the same period. Dipththeria, again, is essentially a disease of the north, but especially of the northwest. It causes an excessive mortality in children of German parentage, sufficiently so to show that here

true tubercular phthisis. It is reported as causing twelve per cent. of all the deaths, or more than any other single cause. In England and Wales, in 1880, it caused a little over nine per cent. of all the deaths. Such wholesale ratios are, however, of little interest or value. There are very great differences in the liability to this disease in different parts of the United States, as the map makes sufficiently evident, and it is from a study of the causes of these differences in the data derived from large masses of people, combined with clinical histories and experimental laboratory work, that we have good reason to hope to obtain knowledge, not only of the causes of this disease, but of better methods of prevention and treatment than are now at our command. It

causes a greater mortality among the Irish than in other white races, and, perhaps, a greater mortality among the colored than among the white.

Next to consumption, pneumonia is reported as causing the greatest number of deaths in the United States during the census year, giving a ratio of 8.3 per cent. of all deaths, as against 4.8 per cent. in England and Wales in 1880. Here, again, the local distribution of deaths is interesting, and the contrast between the map of consumption and that of pneumonia is very striking. Here, again, we find that race peculiarity is an important factor in the problem, the proportion of deaths from pneumonia among the colored being much greater than it is among the white.

CHART IV.



Map of the United States showing the distribution of deaths from pneumonia as compared with total deaths from known causes. Census of 1880.

I have elsewhere commented more fully than it is possible to do here upon these peculiarities of the distribution of certain causes of deaths in the United States.[1] In fact, my only object in calling your attention to the subject is to indicate the direction in which we may hope for good work hereafter, which indication is the chief, if not the only valuable result of the work already done. In the brief comments which I have made upon these maps you will have noticed the stress which I have laid upon race peculiarities. These race problems are simply problems of heredity taken in mass, and there is no need to urge upon an assemblage of medical practitioners the importance of considering family peculiarities in diagnosis, prognosis, and therapeutics. That the questions involved are difficult and complicated is true, but we are already possessed of more knowledge with regard to them than is commonly supposed.

In a lecture on "Life," delivered a few months ago, Prof. Brookes, of the Johns Hopkins University, illustrated this as follows: "If I am placed, with my eyes bandaged, before a stone lying free on the surface and am told to kick it, and if I know at the same time the size, shape, and weight of the stone and the character of the surface, I can form a pretty accurate idea as to what the result upon the stone will be. While if the object to be kicked is a dog, and I am given precisely the same data, I cannot tell what will be the effect. But if I can see the dog, I can, in many cases, predict pretty accurately. If he is a bulldog, he will do one thing; if he is a Gordon setter, he will do another." And, in like manner, the old family doctor knows that when a particular disease appears in his neighborhood, he may expect to see it produce in one family convulsions, in another collapse, and, in a third, little or no danger or inconvenience.

This kind of knowledge is, however, at present mainly confined to individuals, it has not become a part of the

[1] See report on Mortality and Vital Statistics of the United States as returned at the tenth census, 2 vols. 4to., Washington, 1885–1886.

world's knowledge; it is not defined; in other words, it is not scientific. To make it so, is the work of the future, and in this work I hope that we shall be able to help you.

I have spoken to little purpose if I have failed to show you that there is a great deal of human nature in American physicians, and that it is a kind of human nature with which you are tolerably familiar. It should be so, for we are of the same race, a race which, perhaps, as Emerson says, "sets a higher value on wealth, victory, and material superiority than other men, has less tranquillity, is less easily contented." Our ancestors were restless, fighters, freebooters, and from these ancestors we have the common inheritance of energy; of what *we* call "firmness," and our opponents unreasonable, pig-headed, stubbornness; of liking to manage our own affairs, and, at the same time, to exercise a little judicious supervision over those of our neighbors; of hatred of humbug, and lying; and, in spite of our discontent, of a firm belief that our wives and children, habits, houses, modes of business, and of treating disease are, on the whole, better than those of any other people under the sun.

Privately, and between ourselves, we grumble and declare that the country and profession are going to the dogs—nay, we must do so, or we should not be of true English blood, but there is no need for me to tell you that these are only "growing pains," and not symptoms of progressive ataxy.

While we must consider the difficulties in the way of the improvement of the science and art of medicine, difficulties due to ignorance, to indolence, to conflict of interests, and to the eternal fitness of things, the existence of such difficulties is not a matter to be bemoaned and lamented over. These obstacles are the spice of life, the incentives to action, the source of some of the greatest pleasures which it is given to man to experience.

The child, spending a happy hour with its new puzzle, is a type of the scientific investigator. The naturalist who objected to the statement that this is a miserable world which it is well to be soon done with, on the ground that there are still many species of rhizopods which he had not examined and classified, is another type. On the ethical and sociological side, the matter is summed up in Ruskin's aphorism, that "Fools were made that wise men may take care of them."

It is surely not without cause that there has been given to us this restless spirit of inquisitiveness, this desire to compass the heavens and the earth, this raging, infinite thirst for knowledge, it is the outcome of brain training and natural selection for thousands and tens of thousands of years.

We are in a period of the world's history characterized by material prosperity, by increase of populations, by tendencies to uniformity, to the making of individuals of small account. According to the Swiss philosopher, Alphonse de Candolle, this is to last a thousand years or so, after which the pendulum will swing the other way, and there will follow a long period of diminution and separation of peoples, and of decadence.

Against that decay of nations we know of but one remedy, and that is increase of knowledge and of wisdom. And this increase must be in *our* knowledge, in the world's wisdom, and not merely in that of John, or Fritz, or Claude.

As each man has special opportunities and duties, if he can only recognize them, so it is with guilds, with professions, and with nations.

I have tried to indicate to you some of these opportunities which are presenting themselves to my colleagues, your brothers, in the lands beyond the sea, and I hope that I shall not be considered rash, or vainglorious in saying that I believe they will so use those opportunities as to return compound interest for what they have received from the storehouse of our common inheritance. Force changes form and place, the stored energy of the soil of our plains and valleys has been coming here in the form of meat and grain, has appeared in muscle and brain, and in a hundred other shapes, but none has been destroyed; our loss has been your gain, and in our turn we have received full and fair exchange.

It is our part now to remember that there are not two springs in the year, there are not two periods of youth abounding in energy and desire, or of manhood's strength and self-poise, in the life of any man or of any nation, and for us, as for those who have been before us, the Kanuri proverb holds true, "*Kabu datsia, kargum bago*"—The days being finished, there is no more medicine.

ORIGINAL ARTICLES.

REPORT OF AN EPIDEMIC OF GONORRHŒA CONTRACTED FROM RECTAL COITION.

BY RANDOLPH WINSLOW, M.A., M.D.,
PROFESSOR OF SURGERY IN THE WOMAN'S MEDICAL COLLEGE OF BALTIMORE, LECTURER ON CLINICAL SURGERY IN THE UNIVERSITY OF MARYLAND.

THE following cases came under notice in 1883 and 1884, and present no features rendering them worthy of record, except such as are dependent upon their unusual mode of origin. In a certain institution near Baltimore, a large number of boys of ages from nine to twenty-one years are collected, who are, with few exceptions, closely watched, and are seldom allowed out of the sight of an officer. No females are employed as domestics except two middle-aged women as cook and laundress. There is no chance for the inmates to have connection with women outside, as the grounds are surrounded by a high wall, and watchmen are stationed in various places to prevent unauthorized ingress or egress. Owing to rigid surveillance, it would be equally impossible for sexual relations to have been had with the two middle-aged women aforesaid.

Notwithstanding these conditions, during 1883 and 1884 numerous cases of urethritis developed amongst the boys, the origin of which for a long time remained a mystery. The authorities were confident that the boys who were the subjects of the disease had had no opportunity to have sexual intercourse with women, and the boys would only acknowledge such causes as straining, wearing the clothes of other boys, and masturbation. As the number of cases increased, the officers began to unravel the mystery, and finally the following facts were brought to light:

For a long time sodomy had been practised to some extent in the institution, but without any especially ill results in regard to health. The younger boys were generally selected to take the part of a

female, usually for some substantial benefit, as a piece of tobacco, candy, or other delicacy, or a reciprocity of the favor.

The gonorrhœal epidemic is supposed to have originated in the following manner: A boy who was on leave of absence contracted gonorrhœa from a girl, and was the subject of the disease when he returned to his duties. Previous to his recovery he cohabited with another boy, causing an inflammation of his rectum. I subsequently examined the rectum of this boy and found it red, painful, and inclined to bleed. At first defecation had been painful, but he had recovered in that respect when examined by me. Soon after the connection of these two boys, the latter granted like favors to a friend, who had no urethral disease at that time, and in a few days he developed the usual signs of gonorrhœa. Another boy appearing at this time with urethritis, attributed it to rubbing his penis against the organ of the first mentioned boy, whilst engaged in a mock copulation, but would not acknowledge having had rectal coition.

Thus case after case occurred without assignable cause, though in a few instances the boys confessed to buggery, and attributed the disease to it. Not all the cases were accurately recorded, and in fact it is probable that a number of boys never reported for treatment at all, but the following cases are known to have been treated, and are presented for what they are worth.

CASE I.—Boy, seventeen years of age, has not been outside for three months, reported at hospital August 3, 1883, with a urethral discharge, which lasted several weeks, and finally yielded to copabia internally and boracic acid injections. No cause assigned for the disease.

CASE II.—Boy, reported at hospital on September 15, 1883, presenting all the signs of gonorrhœa, consisting of pain, swelling of penis, discharge, and chordee. He attributed the disease to wearing the shirt of another boy who had contracted the disease outside. This mode of origin was denied by the hospital steward, who said the whole story was a fiction.

Amongst cases without further history are the following:

CASE III.—Aged nineteen; gonorrhœa.

CASE IV.—Aged eighteen; gonorrhœa.

CASE V.—Aged sixteen; epididymitis.

CASE VI.—Aged sixteen; gonorrhœa, attributed by the boy to masturbation.

CASE VII.—Aged sixteen; gonorrhœa causing phimosis, which resisted all treatment until he was circumcised.

CASE VIII.—Aged sixteen; epididymitis; no assigned cause.

CASE IX.—Aged fifteen; gonorrhœa, moderate in intensity, and three weeks in existence when first seen.

Amongst the cases which can be traced more clearly is the following:

CASE X.—Boy, aged thirteen; impubic, entered hospital in September, 1884, with severe urethritis. He admits having had rectal coition with a comrade four days previously, and says the discharge began the day following. He has now a free discharge of bloody pus from the urethra, with other signs of severe inflammation of the canal. This boy became quite ill with considerable fever, and subsequently a suppurating swelling formed over the wrist-joint, which I considered to be pyæmic in nature, and later abscesses developed elsewhere. After a protracted illness he recovered. I examined the rectum of the boy from whom he says he contracted the disease, and found it red, painful, bleeding easily, and inflamed. I inquired of one of the boys who acknowledged to both active and passive pæderasty, whether he submitted to the approaches of his friends from any gratification which the act gave him. He denied having any pleasure in acting the part of the female, and only allowed it for reciprocal purposes.

I regret that efforts were not made to discover the gonococcus of Neisser in the discharges from both the rectum and urethra in these last cases. As some of the cases were treated by another physician, I am unable to report their histories as fully as I would like, but they are corroborative of the method of origin enunciated above.

The epidemic ceased about January, 1885, owing to the strict watch kept upon the suspected boys, and the severe corporeal punishment inflicted upon those detected in the act of sodomy, although isolated instances are still occasionally discovered.

I am induced to present the above brief account of this outbreak of urethritis on account of its rarity from an etiological point of view. Whilst many authors mention the fact that the rectum may be occasionally the seat of gonorrhœal inflammation, none with whose writings I am familiar mention any case in which the disease has been reconveyed to the urethra by rectal cohabitation. Van Buren and Keyes simply mention in a foot-note that cases of rectal gonorrhœa have been observed by Allingham and Tardieu (Van Buren and Keyes, *Genito-Urinary Diseases*, 1874, p. 53) in prostitutes who practised sodomy. Otis (*Practical Clinical Lessons on Syphilis*, etc., p. 261) mentions gonorrhœa as "occurring exceptionally in the mucous membrane of the rectum." Esmarch (in Billroth and Pithas's *System of Surgery*, Vol. III. Part II. p. 69) says:

> "A very acute catarrh with profuse secretion results from transportation of the contagium of gonorrhœa to the mucous membrane of the rectum. It occurs in women most frequently from the inflowing of the secretion from the vagina; but in men through direct infection in consequence of passive pæderasty."

Kelsey (*Diseases of the Rectum and Anus*, p. 69) makes a similar statement:

> "Again the disease may result, both in men and women, from the habit of passive pæderasty, and in such cases will be due either to mechanical violence or to the inoculation with gonorrhœal pus. A true gonorrhœa of the rectum, whether caused in this way or by direct inoculation in women by pus which is passing over the anus from the vagina, is very rare. The diagnosis of gonorrhœal proctitis will rest upon the amount and purulent character of the discharge, and the existence of gonorrhœa of the vagina, or the confession of intercourse with a diseased person in men."

Again, on page 167, he says:

"During the height of the process the rectum is hot, red, swollen, and granular, and there is abundant purulent discharge issuing from the anus from time to time in clots."

Agnew also mentions the possibility of rectal gonorrhœa (*Surgery*, vol. ii. p. 469) as follows: "Of the susceptibility of the rectal mucous surface, there can be but little doubt." In the *Maryland Medical Journal* for June 1, 1882, Dr. John Morris reports a case of rectal gonorrhœa in a lady, which did not arise from unnatural practices. "The symptoms were pain, spasmodic contraction, and formication."

The above references to the subject of rectal gonorrhœa are about all that are accessible to me at this time, and from them we learn that the disease has been seen by a number of medical men, notwithstanding the dictum of Mr. Henry Lee, that "it is doubtful if gonorrhœa of the mouth, nasal cavities, and anus ever occurs" (Holmes's *System of Surgery*, vol. ii., Am. ed.). That other observers have seen urethral inflammation arise from this unnatural and filthy practice I can scarcely doubt, but I am unaware of any such observations. Hence, place these cases upon record as etiological curiosities.

No. 1 MOUNT ROYAL TERRACE, BALTIMORE,
July 13, 1886.

OBSERVATIONS ON LEAD POISONING, WITH SPECIAL REFERENCE TO THE EXAMINATION OF THE URINE.

BY CHARLES BINGHAM PENROSE, M.D.,
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THE cases reported in this paper were admitted to the medical wards of the Pennsylvania Hospital during the service of Professor J. M. Da Costa, 1885–86.

CASE I.—F. H., æt. forty-two, admitted December, 1885; had been a house-painter for thirty-two years. He never experienced any bad effects from his business until November, 1881, when he had an attack of colic and constipation. He treated himself with Epsom salts, and recovered in three weeks.

He continued well until December, 1884, when a squamous eruption appeared upon the palmar surface of the right forearm. This was followed by itching and burning sensations under the nails of the right hand. He began to lose strength in the right arm, and two weeks later became unable to extend the right hand, or fingers, and a marked tremor appeared in the arm. The left arm was then attacked with weakness and similar paralysis. He suffered from pains about the wrists and ankles. The pain originated at the ends of the flexor muscles of the forearm and radiated to the fingers. He had burning sensations on the soles of the feet and cramps in the calves. Attacks of spasmodic contraction of the flexor muscles of the forearms began to occur almost daily, and during these attacks it was with great difficulty that the fingers could be straightened. Muscular weakness extended to the legs and throughout the body. He suffered from headache, giddiness, mental wandering, and occasional delirium. His eyesight, which formerly had been very good, became much impaired. All these symptoms appeared suddenly; and they reached their maximum in extent and intensity during the first month of the attack. Indeed, the mental wandering, giddiness, and tremor had much diminished before admission, though the man had been under no treatment.

When admitted to the hospital, this man walked with a weak and unsteady gait. His hands were claw-shaped; the fingers being flexed and inclined toward the ulnar side. The joints of the fingers and the wrist-joints were prominent. The left wrist presented the appearance of subluxation. The deformity of the hands resembled that seen in rheumatoid arthritis. The extensor muscles of the forearms and all the muscles of the hands were atrophied. The thenar and hypothenar eminences were flattened: in the right hand they were obliterated. The muscular mass between the metacarpal bones of the thumb and index finger had disappeared on both hands.

There was complete paralysis of the extensor muscles of the hands and fingers, and the grasp was very feeble. There was no paralysis of supination and pronation (cf. Duchenne, *L'Electrisation Localisée*, 3d ed., pp. 671–691). The deformity and weakness were so great that he could only with difficulty feed himself, and he was unable to button his clothes.

There was great muscular weakness in the legs and throughout the body, though there was no paralysis or atrophy of any muscles with the exception of those upon the forearms and hands.

He complained of pain in the finger-joints, and at the ends of the flexor muscles radiating to the fingers. The pain was greater on the right side, and was not increased by motion or pressure. There was also pain about the ankles, and the right external malleolus was tender on pressure. There was a slight tremor of the right arm. There was no response to the patellar reflex.

There was a very diffuse lead-line upon the gums, which existed on the inner and outer aspect of the base of every tooth in the mouth. There were also black patches on the mucous membrane of the upper and lower lips opposite the left canine teeth. The tongue was flabby and marked by the teeth. The breath was fetid. The bowels were constipated, though there was no colic. The pupils were contracted and sluggish.

No murmur was heard in the heart. The first sound was indistinct; the second was distinct at the aortic and pulmonary areas. There was no anæmia. The complexion was florid, and examination of the blood showed that the red corpuscles existed in normal quantity.

The cutaneous sensibility was diminished on all parts of the hands, arms, feet, and chest. The greatest diminution of sensibility occurred on the palmar surfaces of the last phalanges of the little finger of the right hand, and of the thumb and middle finger of the left hand. On the two latter fingers sensation was completely destroyed, a needle was thrust through the skin without causing pain. Since the beginning of the attack the middle finger of the left hand had felt numb and cold.

Faradic contractility was absent in the extensor muscles of the forearms, and in the muscles of the hands. All the muscles responded to galvanic stimulation, with the exception of those which form the thenar and hypothenar eminences of the right hand. In these muscles all forms of electrical stimulation failed to cause contraction.

Though galvanic contractility was diminished in the paralyzed muscles, yet there were no apparent qualitative changes. The cathodal closing contraction was in every case the greatest. Of all the paralyzed muscles the extensor ossis metacarpi pollicis had best preserved its electro-muscular contractility (cf. Duchenne, *loc. cit.*).

For some time after admission he complained of continual frontal headache and neuralgic pains about the inner angles of the eyes. At times he was unable to see, and everything looked dim and dark before him. He also suffered from spasmodic contraction of the flexor muscles of the forearms; and during these attacks it was necessary to use considerable force to straighten the fingers. About forty ounces of urine were passed in twenty-four hours. The specific gravity was 1.021. No albumen, sugar, or casts were found.

After this man had been under treatment for five days he was sent, for examination of his eyes, to Dr. George C. Harlan, Surgeon of the Eye and Ear Department of the Pennsylvania Hospital.

The following is Dr. Harlan's report:

December 8, 1885. States that his sight had not been so good as formerly for the last year, and has grown much worse recently. No pain or inflammation of eyes at any time, or any symptom other than diminution of sight. Vision in the right eye is now $\frac{10}{LXX}$, and in the left $\frac{10}{C}$. The ophthalmoscope shows no decided change in the appearance of the fundus, but on hypermetropic refraction, weak convex glasses (+ 1.5) improve the vision to $\frac{20}{XL}$. Color vision normal. The visual field in each eye is extremely limited concentrically. At a distance of ten inches there is no vision, even for form, beyond an area two and a half inches in diameter about the point of fixation, which is central. Repeated examinations by different examiners give always the same result.

15th. There has been decided improvement in both the acuteness and the area of vision, and some in the accommodative power. There is now in the right eye V. $= \frac{20}{L}$ without a glass, and $\frac{20}{XX}$? with + 0.75; and in the left V. $= \frac{20}{L}$ improved by + 1.25 to $\frac{20}{XXX}$. The field of vision in each eye, taken at ten inches, measures twenty inches in its horizontal diameter and fifteen inches in its vertical, with + 3 D. No. 1 S. is read at eleven inches.

18th. After careful testing under homatropin the refraction is found to be in the right eye + 1.25 and in the left + 1.75, and the vision $= \frac{20}{XX}$? The visual fields are still improving, and are now but slightly contracted.

26th. Visual fields normal. As the patient's vision had been impaired for some time and he was not aware of the contraction of the fields, it is not possible to obtain any exact information as to the time of its commencement. There is very little doubt, however, that the earlier disturbance of sight was due to hypermetropia rendered manifest by the failure of accommodation, and that the contraction of the visual fields, which disappeared so rapidly, was of very recent origin.

CASE II.—M. H., æt. forty-nine, admitted December, 1884, had been working for three years in a paint factory, where he handled only metallic lead. Six months after beginning work he had an attack of colic and constipation, which lasted five weeks. After this he was well until two months before admission, when he was again attacked with colic and constipation.

When admitted to the hospital he was still suffering with colic. The tongue was pale and marked by the teeth. The face and conjunctivæ were pale. Examination of the blood showed that there were but one-half the normal number of red corpuscles. There was a diffuse lead-line upon the gums on both jaws. The bowels were very constipated. There was no wrist-drop, and no paralysis or weakness of the muscles; and the electrical reactions were normal. The pupils were contracted and responded to light. The pulse was weak. At the left base of the heart there was heard a faint systolic murmur propagated toward the apex. The feet were slightly œdematous. Fifty ounces of urine were passed in twenty-four hours: acid reaction; specific gravity 1.020; no albumen, sugar, or casts were found.

These cases differed materially from each other in regard to the parts attacked by the poison. In Case I. it was the nervous system which was affected; there was no colic, and no apparent blood change. In Case II. the chief manifestations of the poison were the derangements of the intestinal tract and of the blood.

Both cases were put upon the same treatment, which consisted in the administration of twenty grains of iodide of potassium three times a day, small doses of sulphate of magnesium and aromatic sulphuric acid, and frequent warm baths. In addition, Case II. received thirty drops of the syrup of the iodide of iron three times a day; while Case I. received small doses of strychnia, and the galvanic and faradic currents were applied three times a week to the paralyzed muscles. It was found that most benefit was derived from the interrupted galvanic current. For about twelve hours after the application of this current the patient was free from pain about the wrists and fingers, and there were no spasms of the flexor muscles.

The atrophied muscles rapidly improved in strength and size under this treatment, though two months passed before any reaction to electrical stimulation was apparent in the muscles of the thumb and little finger of the right hand.

Case I. left the hospital, cured, after five months of treatment. The black patches had disappeared from the lips, and there was a scarcely perceptible line upon the gums. His eyesight was much improved, and he was troubled but little by headache. The patellar reflex was normal. Sensation had returned, to a great extent, to the surfaces where there had formerly been anæsthesia. Muscular power had so improved that he was able to return to his business of house-painting.

Case II was discharged, cured, after having been in the hospital six weeks.

Examination of the Urine for Lead.—The urine has frequently been examined for lead in cases of lead poisoning, but the results obtained have not been satisfactory. On some occasions lead has been detected; on others, it has apparently been absent.

It is probable that in many cases the failure to detect lead has been due to faulty methods of examination, and in this connection there are several points to be remembered.

It is said that sulphuretted hydrogen does not precipitate lead when it is combined with albuminous substances, nor when it occurs in the secretions, in cases of lead poisoning—at least, when iodide of potassium had not been administered (Ziemssen's *Cyclopædia of the Practice of Medicine*). If the urine is evaporated to dryness and the organic matter incinerated, there is always danger of driving off some of the volatile compounds of lead which may be present. If lead is present in solution in the urine, it may be precipitated as a sulphate, as the urine is evaporated; and this is especially likely to occur if sulphates had been administered to the patient.

Lead may also be precipitated by the alkaline phosphates in the urine as di- and tri-plumbic orthophosphates.

Sulphate of lead is soluble in solutions of ammonium acetate containing an excess of ammonium hydrate. The phosphates of lead are readily decomposed by sulphuretted hydrogen.

Reeves's test (*Australian Med. Rec.*, Dec. 14, 1861) consists in administering to the patient iodide of potassium, and then soaking in the urine for five minutes after each micturition, a piece of sulphide of potassium tied up in a white rag. When the sulphide of potassium has been dissolved, the rag is opened; and, if lead is present in the urine, it is said that a black deposit of plumbic sulphide is found on the inside of the rag. This test is of no value unless the black deposit is analyzed for lead. Sulphide of potassium cannot be obtained pure in the solid form; it always contains a considerable amount of carbon, which is itself left as a black, insoluble deposit.

The following method was employed in examining the urine of the two cases of this report:

One gallon of urine was strongly acidulated with nitric acid, and slowly evaporated. As evaporation progressed, more nitric acid was added, and, by the time the solution was evaporated to dryness, all the urea had been destroyed.

The residue was dissolved in a small quantity of distilled water, acidulated with nitric acid, and filtered. There was in every case but a very small residue upon the filter paper. This residue, after having been washed with a solution of ammonium acetate and ammonium hydrate, was added to the filtrate; and the mixture was tested for lead with sulphuretted hydrogen, sulphuric acid, electrolysis, etc. The ammonium solution was then acidulated and tested for lead in a similar manner.

Three specimens of urine were thus examined from Case I. One specimen was passed before, and two after the exhibition of the iodide of potassium. Two specimens of urine from Case II. were examined after the exhibition of the iodide.

On no occasion was lead detected.

In both cases rapid improvement took place, and the black line upon the gums perceptibly diminished in extent and intensity, showing that lead was being eliminated by some channel, though apparently not by the kidneys.

As already mentioned, the results obtained by other observers with regard to the detection of lead in the urine have been very variable.

Kletzinsky (*Wien. med. Wochenschrift*, 1857) detected lead in the urine of only two out of fourteen cases of distinct lead poisoning.

Dr. Parkes (*British and Foreign Medico-Chirurgical Review*, 1853) examined four specimens of urine from a case of lead poisoning. The first two specimens had been passed before, the last two after, the exhibition of the iodide of potassium. Lead was found only in the last two specimens. In this case, however, the last specimens were examined by a much more delicate method than the first.

Dr. Sieveking (*Med. Times and Gazette*, 1857) examined three specimens of urine from a case of lead poisoning, during the exhibition of the iodide of potassium, and found lead only in the last one.

Dr. Mitscherlich failed to find any lead in the urine of animals which he had poisoned.

Other examinations of the urine have been made with equally irregular results.

From these observations it may be concluded that failure to detect lead in the urine in cases of lead poisoning has not, in many cases, been due to any fault in the method of examination, but to the fact that lead was not being eliminated by the kidneys. Lead is eliminated by the skin, the intestinal glands, the liver, and the kidneys. During the ingestion of lead it is often eliminated continuously by the kidneys, and can be detected in the urine. The presence in the urine, however, continues only for a few days after the metal has ceased to be taken into the system, though it may be found in the tissues for several months afterward.

The removal of lead from the tissues is hastened by the iodide of potassium. It is often assumed that the kidneys furnish the main channel of elimination in this case. The results of the examinations of the urine that have been made do not, however, confirm this view. It is probable that the chief channel of elimination differs in different cases. In some cases lead is eliminated mainly by the kidneys, in others by the intestinal glands and liver. If saturnine albuminuria is the result of efforts at elimination by the kidneys, lead should be found in the urine,

most frequently, in cases where the kidneys were undergoing degeneration. In the two cases reported in this paper no albuminuria existed.

MEDICAL PROGRESS.

TREATMENT OF WHITLOW AND SPRAINS.—DR. JOHN CHIENE, in his contributions to practical surgery (*Edinburgh Medical Journal*, June, 1886), writes as follows on the treatment of whitlow and sprains:

In deep-seated digital inflammations over the first and second phalanges, the cause is either an inflammation of the flexor sheath, or periosteal in origin. In inflammations over the anterior aspect of the terminal phalanx, the cause is periosteal, and the worst that can happen is necrosis of the terminal phalanx.

In all cases make your incision early, central, and in the long axis of the finger. Relieve tension, and prevent spread of the inflammation from the flexor sheath on the finger to the common flexor sheath on the anterior aspect of the wrist. In periosteal cases early incisions prevent necrosis of the affected phalanx. Whitlows are infective conditions, and are due to a colony of micrococci. The periosteal whitlows are cases of acute suppurative periostitis.

The infective character of these conditions must not mislead the surgeon into supposing that careful antiseptic precautions are unnecessary. Sepsis and infection are perfectly distinct conditions. Relieve the tension, and the evil effects of the pathogenic micrococci will soon subside; prevent sepsis caused by the entrance of septic organisms from the external air, and rapid healing will be the result. In patients who are liable to whitlows, as in people who suffer from boils and carbuncles, administer corrosive sublimate internally, it is a most powerful anti-fermentative.

In *Sprains*, carefully applied elastic pressure, with wadding, combined with massage and passive movement, gives the best results.

In diagnosticating an injury, look before you touch a limb. Remember the normal relations of the styloid processes in diagnosticating injuries in the region of the wrist; the relation of the head of the radius to the external condyle, the relation of the olecranon to the internal condyle of the humerus in the elbow-joint; and let the coracoid process and its relation to the head of the humerus be the principal guiding landmark in injuries of the region of the shoulder.

Always expose the uninjured corresponding region, examine it in the first instance, and let it be your standard (having satisfied yourself that it *is* normal) in diagnosticating the injury on the opposite side.

EFFECT OF SUBCUTANEOUS FRACTURES ON BODY TEMPERATURE.—E. MÜLLER has recorded the rectal temperature in 36 cases of uncomplicated fractures, and found, in opposition to the observations of Maas, a rise in temperature in 35. The maximum was usually reached on the first or second evening, and was maintained for from one to thirteen days. Neither the age of the patient, the amount of extravasation, nor the extent of the fracture appeared to influence the extent of the rise in temperature. Müller has collected all the records of uncomplicated fracture (English, German, and American) at the time available to him, and finds that out of 359 cases, 308—85 per cent.—passed through with marked rise of temperature.—*Centralblatt f. Chirurgie*, June 12, 1886.

INVESTIGATIONS ON THE ACTION OF THE MICROCOCCI OF VACCINE.—DR. L. VOIGT has presented an interesting study of vaccine cultures, an abstract of which follows:

Koch and Feiler, as the result of their researches, concluded that the microörganisms which are regularly found in vaccine lymph are pathogenic but do not contain the vaccine contagium, and that when isolated and used for vaccination neither produce a pock nor grant protection.

Quist, of Helsingfors, has grown vaccine lymph in various media and successfully vaccinated children with the products.

Bareggi has stated that the microörganisms of smallpox and vaccine are identical. He has described large and small cocci, which latter are probably the carriers of the contagion. They exhibit active Brownian movements, and develop so rapidly that in three days a kilogramme of artificial lymph may be prepared from a capillary tube of human lymph. With such cultures, six out of eight vaccinations were successful.

The author has separated and cultivated in gelatine three kinds of organisms which all liquefy the medium.

1. Small cocci which, near the surface of the gelatine, form grayish-white sharply defined spherical colonies, the periphery being of a pale yellow color. Under a high power they appear to possess a proper movement, and occur in knots of two and four. These are probably the carriers of the contagion.

2. Large cocci which form pale green spherical colonies with rough and indefinite surfaces, and under a high power show only slight Brownian movement. These were not always present.

3. Small cocci in gray, yellow, dark, sharply defined colonies with a delicate cloud in the neighborhood, presenting, under a high power, groups of two to four, but possessing no spontaneous movement. In stained preparations these are indistinguishable from (1), but are ineffective for vaccination. Three out of fourteen calves were successfully vaccinated with (1).

The author offers his results as a partial contribution to the subject, which requires further investigation.—*Manchester Medical Chronicle*, June, 1886.

CONDITION OF THE URINE AN AID TO DIAGNOSIS AND PROGNOSIS IN ABDOMINAL DISEASES.—M. THIRIAR, of Brussels, states that the amounts of urea and of chlorides in the urine furnish valuable information in abdominal surgery. When there is difficulty in determining whether an abdominal tumor is malignant or benign, the amount of urea is a very important aid. With Rommeläere he has always found that in the case of malignant tumors the amount of urea gradually diminishes till it stands at less than twelve grammes in twenty-four hours. The urine, of course, must be measured daily, a sample of the whole examined, and this frequently repeated, as a single observation is worthless. The patient must also be free from albuminuria and tuberculosis, and account must be taken of the food. In benign tumors of uterus and ovaries, the quantity varies between twenty-one and twenty-five grammes; in malignant tumors it is

below twelve. The same holds good of cancer in the intestines.

After operations in abdominal cases there is a close relation between the amount of chlorides and suppurative or destructive inflammation. When the quantity of chlorides falls below one gramme, suppuration is imminent. In all operations involving the peritoneum, an analysis of the chlorides may indicate whether the case is likely to recover.—*Glasgow Medical Journal*, July, 1886.

INFLUENCE OF PREGNANCY ON THE CIRCULATION.—ENGSTRÖM, of Helsingfors, opposes the postulate of Spiegelberg, who assumes the existence of increased cardiac exertion in pregnancy, as conditioned by the increase both in the bulk of blood and area of circulation. Engström deduces from his own experiments and from those of Lahs, that the increment of the uterine circulation in nowise obstructs the blood-flow in the abdominal aorta, nor increases the work of the left ventricle. The clinically established fact that the left heart is more active in the latter months of pregnancy, he ascribes, not to the increased blood mass, but to increased intra-abdominal pressure—not due to direct pressure on the uterus or the aorta, but to a more or less great compression of all the abdominal vessels.—*Centralblatt f. Gynäkologie*, July 17, 1886.

THE KOLA NUT AND ITS ACTION.—WATSON SMITH writes as follows to the *Manchester Medical Chronicle* for June, 1886.

The kola nut (cola acuminata) is indigenous to the West African coast. Heckel and Schlagdenhauffer say the seeds are reputed to clarify and render healthy the most foul waters, and even to make tainted meat edible. A member of the Linnæan Society gave, at a meeting of that Society, an account from actual experience of the kola, and of certain effects produced by it. He stated that the foreman of his estate was habituated to excess in drinking, and that every Saturday his habit got considerably the better of him. However, he had a wife who cared for him (and herself), and she reduced a kola nut to the condition of a paste every Monday morning shortly before her husband's services were required, and administered the paste to the man. In thirty minutes his head was clear again. But it is further maintained that after such an application of the kola a drunkard cannot return to alcoholic stimulants for some days without feeling nausea. At some of the garrison towns a native sits at the roadside, and sells the nuts as the soldiers pass. By the time the men reach the barracks they are quite clear headed, and the stupefaction caused by drinking spirits is gone. On the west coast of Africa, the Mohametans and Arabs surpass the natives in point of drinking capacity, for whilst drinking they also chew kola, and so anticipate the after ill-effects otherwise experienced, and prevent them. A little supply of kola nut, I would suggest, or its paste, might prove a useful help to the professional heads of our hydropathic establishments, serving for use as a kind of antiperiodic against those attacks of alcoholic craving, sometimes leading inmates to wander forth and commit themselves to positively dangerous excesses. The kola nut contains very considerable quantities of caffeine (over two per cent.), and also some theobromine, and it forms the basis of a stimulating food (the paste) of great value.

Dr. A. Hudson, Medical Inspector of the U. S. Navy, has recently stated, in a letter to Mr. Thomas Christy, of London, to whom he had applied for an experimental supply of the kola paste, that being put into possession, by the Surgeon-General of the U. S. Navy, of a sample of the paste, he had employed it in a case of mitral disease, with granular kidney of slow progress, the average quantity of urea contained in the urine being about half the normal. With much lassitude and malaise there were intense headaches (probably uræmic) at intervals of three or four weeks. and some dyspeptic symptoms. The kola was given economically for nearly a month, with apparently decided benefit. Certainly the tone and vigor of the patient improved, and the single headache which occurred within six weeks had less than a day's duration, and was of a mild character. Synchronously there was an increase in the amount of urea excreted, as well as in the quantity of urine.

ON THE THERAPEUTIC VALUE OF PREPARATIONS OF COCA IN CHILDHOOD.—PROFESSOR POTT, of Halle, records some experiments with coca. He used a tincture composed of one part of coca leaves to five parts of absolute alcohol, and an extract internally, and solution of the strength of five and ten per cent. of cocaine for subcutaneous injection and external application. He found the tincture, in doses of from five to twenty drops every hour or two hours, of the greatest benefit in the various forms of enteritis, gastroenteritis, colitis, and cholera nostras, in children under two years of age. Even in very severe and desperate cases, after from fifty to one hundred drops of the tincture had been taken—*i.e.*, within about twenty-four hours—the sickness stopped, the diarrhœa was greatly lessened, and a permanent improvement set in. Part of this improvement may have been due to the alcohol, and the ordinary rules for diet and hygiene were at the same time rigidly enforced. He found no benefit from its use in diseases of the respiratory tract or of the nervous system. The extract was not fully tried, but seemed of some use in the nervous attacks of older children. The chief novelty in his use of the cocaine solution was in its application in whooping-cough. He found that painting a five per cent. solution on the back of the throat three times a-day had an immediate and strikingly beneficial effect on the paroxysms, reducing them at once in number from twenty or more during the twenty-four hours to three or four, and is of opinion that the course of the disease may be shortened by some weeks by this method of treatment. He found the same application very useful in cases of inflammation of the tonsils and pharynx, and in various forms of angina.—*Edinburgh Medical Journal*, June, 1886.

APPLICATION FOR USE IN THE ERUPTION OF WISDOM TEETH.—DELIOUX DE SAVIGNAC has commended the following mixture as an application to the inflamed gums over wisdom teeth in the process of eruption:

Glycerole of starch	ʒij.
Pulverized borax	gr. xv.
Pulverized saffron	gr. viij.
Tincture of myrrh	gtt. x.

With this make gentle and repeated frictions of the gums.—*Revue de Thérapeutique*, July 15, 1886.

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SATURDAY, AUGUST 14, 1886.

THE BRIGHTON MEETING OF THE BRITISH MEDICAL ASSOCIATION.

THIS week's meeting of the British Medical Association has a special interest to the profession of this country from the fact that the Association, for the first time in its history, has gone without its own borders and, ignoring geographical boundaries, has selected a representative of the American profession to deliver before it the annual Address in Medicine. The meeting has attracted an unusual number of American visitors, several of whom have contributed papers, and it affords another proof of the breadth of science and of the community of the English-speaking peoples.

We have the pleasure of laying before our readers, in another column, an account of the meeting, received by cable from our special correspondent at Brighton.

THE ADDRESS OF DR. BILLINGS.

A FEW months ago the Council of the British Medical Association invited Dr. Billings to make the Address in Medicine before the Association this year which was to have been delivered by the late Dr. Austin Flint, and in another column we have the pleasure of laying before our readers the full text of this Address, which, in every respect, was worthy of its author and the occasion. It has not only a present influence and usefulness, but it will do good in the future. Topics were appropriately considered which Dr. Billings was specially qualified to discuss, and they were presented with the clearness and accuracy which are characteristic of all his work.

The opportunity to present the real status of the American profession was offered, and it was well used. Such presentation was needed, and will be useful. Members of the British profession will better understand than they have hitherto the reasons for the differences in professional qualifications found in a country so vast as ours, with such varieties of population and manifestations of disease, and with numerous means of entrance into the profession: "over eighty gates, a number of turnstiles, and a good deal of the ground is unenclosed common."

The means which are being used to regulate the practice of medicine, especially in Alabama and in Illinois, were presented with commendation. But a point of great practical importance, which those physicians who are asking for legislation sometimes overlook, and which was presented by Dr. Billings, is that "all efficacious legislation must be substantially in accord with public opinion, since it is impossible to continue to punish for any length of time that which public opinion does not condemn; and as the great mass of the people of the United States have not as yet had such evidence as they can understand, and which would thoroughly convince them that it is to their interest to suppress quackery, it follows that it is necessary to go slowly and to allow such evidence to accumulate."

Very great improvement is undoubtedly being made in medical education, as Dr. Billings has so well shown, in those schools requiring preliminary examination and attendance upon lectures for three years. But, independently of this indication of advance, there are certain aspects of this question which medical teachers of a score or more of years gladly recognize. One is the improved qualifications of medical students. The number of those who enter upon the study of medicine after receiving a liberal education increases from year to year. Moreover, in many of those medical schools which do not require a three years' attendance upon lectures and a graded course, the number of students who voluntarily pursue such a course increases from year to year. It is only a question of time as to the adoption by all reputable schools of compulsory attendance upon a three years' graded course as one of the essential requisites for graduation.

One of the most encouraging facts in regard to the development of American medicine, Dr. Billings has presented in the generous gifts by wealthy persons, either for the establishment and endowment of a great hospital and school, as the Johns Hopkins, or for the endowment of special departments, as has recently been done for Bellevue, the College of Physicians and Surgeons, and the University of the City of New York. Such examples as have been set by Mr. Carnegie, the Vanderbilts, and the unknown founder of the Loomis Laboratory, will surely be imitated, and other of the great medical schools of the country will receive generous help.

The work of the United States government in founding a great medical library, the most valuable medical library for reference in the world, is briefly considered. It should never be forgotten that for this library, so vast, so useful, and so wisely selected, the American profession is under obligations chiefly to the zealous, wise, and faithful work of Dr. Billings.

THE TREATMENT OF SYPHILIS.

FORTUNATELY for humanity the ravages of syphilis seem to be lessening. This is partly due to improved social conditions, and to greater vigilance on the part of those who have the supervision of soldiers, sailors, and the ignorant and degraded classes, who are the most fit subjects for destructive morbid processes. It is also partly due to better methods of treatment than were formerly in vogue. Fifty years ago the main thought in the treatment of syphilis seems to have been to meet a dangerous enemy in the most heroic way; and a careful study of the early writings on venereal diseases must leave the candid reader with the impression that much of the damage which was attributed to the syphilis ought to have been ascribed to its treatment. With the advent of men who did not think it beneath them to devote their lives to the study of venereal diseases alone, a better state of knowledge began to prevail. Before this, the patient was subjected to a conventional treatment, and if it did not fit him so much the worse for him. Now, the treatment is made to fit the patient, and under the influence of methods in which mercury took no part, it was found that syphilis might end in a cure, even if no medication was used. In this way it has come about that experienced syphilographers no longer teach the old doctrine of the incurability and ineradicability of syphilis, but can offer to their patients a good hope that they may be cured, and that they may beget offspring which shall be without their parents' taint.

The change from the older methods of treatment of syphilis has been gradual and progressive, and to-day it is as simple and sensible as formerly it was complicated and senseless. It has recently been the subject of discussion before the German Congress of Physicians. The sum of the views there expressed may be briefly stated as follows:

The treatment of syphilis should be begun as soon as the diagnosis is established. The best remedy is mercury administered by inunction. After the disappearance of specific symptoms the treatment may be discontinued, to be renewed only upon their reappearance; or, according to some authorities, it must be continued even in the absence of symptoms for a period of from two to four years. In this way syphilis can be cured.

In addition to these general assertions, there are a number of interesting details in regard to the treatment of syphilis which can be gathered from the discussion referred to. Excision of the initial lesion is regarded by a few syphilographers as capable of preventing general infection. Others regard the initial lesion as a sign of general infection. The former position is hard to establish, as it is open to two objections: First, that it is impossible for the diagnosis of the initial lesion to be certain until later manifestations appear; and, second, that it is impossible to be sure that the disease may not manifest itself long after the usual period of observation. This part of the treatment of syphilis cannot, therefore, be considered as yet accepted. Again, as to the proper time to begin constitutional treatment. Kaposi agrees with Hebra, Sigmund, and Zeissl that energetic treatment is harmful before secondary manifestations appear. Neisser believes in excision, and in beginning constitutional treatment as soon as the diagnosis is established, expecting this to diminish the intensity of the disease, but not to cut it short. He also shares the opinion of Fournier that the treatment should be continued for three or four years intermittently, using, alternately, large and moderate doses, in preference to uninterrupted small doses, of mercury. As to methods of administration, he sensibly says these must be adapted to the patient, and no one method applied to all indiscriminately. In the first outbreak, in case of relapse, or in anticipation of marriage or gestation, an energetic method is to be adopted; in the intervals, mild doses of mercury and iodide of potassium are to be used.

Von Ziemssen, of Munich, has found the hypodermatic method most convenient in hospital practice, but prefers inunction in private practice. Schuster, of Aix-la-Chapelle, declares that after an inunction course lasting from thirty to forty-five days, mercury continues to be excreted in the urine and feces for from six to eight months, and finds in this and in the fact that relapses are apt to occur at about this period, an argument for the renewal of the treatment. Ziemssen, of Wiesbaden, would continue the inunction course for months, and then discontinue it, considering the disease as cured until a relapse occurred. Leube has had thoroughly good results, during thirteen years of hospital practice, from adopting the plan of early constitutional treatment. Edlefsen, of Kiel, agrees with Leube as to the time to begin treatment, and considers inunction as the best method. He is afraid of large doses of the iodide of potassium, not as affecting the stomach, but as affecting the mucous membrane of the air passages. Bäumler advises the commencement of treatment as soon as the diagnosis is established. Doutrelepont is opposed to preventive constitutional treatment, and adopts the method of hypodermatic injections of sublimate solutions, as recommended by Lewin. Schumacher calls attention to the fact

that adopting the plan of long-continued intermittent treatment may prevent one's recognizing early cures of syphilis, and urges the importance of acting energetically in the presence of absolute lesions, and of withholding treatment in their absence. He advises a single repetition of the treatment after the lapse of a year, however, and another on the eve of marriage. Finally, Kaposi sums up the result of the discussion, which we have epitomized, as follows: 1. By general agreement the inunction method is the best in the treatment of syphilis. 2. There is no reason for inaction in the presence of syphilis; there are always means of successfully combating it.

If to these views we add our own, we shall only illustrate the fact that all syphilographers essentially agree with Kaposi. In regard to certain details, there is not perfect accord. It would, probably, be well to give due weight to the opinions of Schumacher, which we have cited, and to let our patients have a chance to show whether or not they were cured by the first treatment; for there can be no doubt that a large number can be so cured. The only objection to this plan is that late manifestations may declare themselves. But there is no good evidence that these are more apt to follow what seem to be early cures than those in which the treatment has been protracted. And it is certain that nothing can protect a patient against the diagnostic skill which attributes all sorts of obscure disorders to syphilis, whenever a previous venereal disease is confessed, and holds the relation to be all the more clear when such a disease is denied.

FECAL AMMONIA IN HEALTH AND DISEASE.

As a contribution to TREITZ's theory of "ammoniæmia," which assumed the absorption from the intestine of ammonium carbonate, produced from the decomposition of urea, W. BRAUNECK has presented in the second volume of *Contributions from the Medical Clinic of Würzburg*, a very interesting series of observations. Tests were made of the feces of twenty-nine persons, including nephritics, cholera and typhoid patients, and healthy individuals. Omitting the details of the improved methods of analysis pursued, Brauneck's results may be summarized as follows: Under normal conditions the feces contain but little ammonia—about 0.15 per cent., while in typhus and cholera nostras its average amount in the dried mass is respectively 0.77 and 0.63 per cent. The dejecta of nephritics occupy a middle place in this regard, with a mean of 0.34 per cent. of fecal ammonia. It is a point of much interest, as demonstrating the fact that ammonium salts are absorbed in these cases, that the contents of the stomach and small intestine were found to contain more ammonia than did the contents of the large intestine.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

(*By Cable from our Special Correspondent.*)

BRIGHTON, ENGLAND, August 12, 1886.

THE fifty-fourth annual meeting of the British Medical Association was opened in this city yesterday at three o'clock, in the magnificent Royal Pavilion, which was a favorite residence of George IV. in the latter part of the last century. The royal stables with their immense dome were years ago converted into a ballroom, and here the general sessions of the Association are held; the spacious apartments of the Pavilion itself being used for the Sectional meetings.

Over twelve hundred members participate in the proceedings, and a goodly contingent from America, twenty-five in number, is present. The weather is delightful, and the proverbial British hospitality is doing its full share in promoting the success of the meeting.

In the morning the Mayor of Brighton welcomed the Association by entertaining at luncheon, in the Royal Pavilion, the Council of the Association and some of the more distinguished visitors.

On Tuesday evening the President, Dr. Withers Moore, of Brighton, delivered the Presidential Address. He vigorously attacked the higher education of women and created surprise by citing American experience as strongly in support of his views. Speaking of the disastrous physical effects of higher education on American women, he quoted an eminent American authority as saying that: "If these causes should continue for the next half century to increase in the same ratio as they have for the last fifty years, it requires no prophet to foretell that the women who are to be mothers in our republic must be drawn from transatlantic homes." Dr. Moore further stated that there was scarcely an American physician who has specially treated the diseases of women who did not corroborate these words. The address was well received.

On Wednesday a meeting of the Council was held in the morning, and at 11 o'clock the second general meeting of the Association was held, at which the Address in Medicine was delivered by Dr. John S. Billings, of the United States Army. It elicited high encomiums, and at its conclusion Director-General Sir Thomas Crawford moved a cordial vote of thanks, which Dr. Ord, of London, seconded, and it was carried with applause.

In the afternoon the Association met in Sections. These were largely attended and the scientific papers which were read were of a high order of merit, and they generally elicited interesting and instructive discussion. In the evening the President held a brilliant *conversazione* in the Dome and Royal Pavilion, at which three thousand guests were present.

To-day the Address in Surgery was delivered in general meeting by Mr. Frederick Abell Humphrey, Surgeon to the Sussex County Hospital. The Association's

Gold Medal for Distinguished Merit—the highest honor which it is in the power of the Association to bestow—was then presented to Dr. Waters for his long and devoted labors on behalf of the cause of medical reform, which have been at length crowned with a large measure of success. This is the third time that the Association, in its history of over fifty years, has conferred this distinction. The Stewart Prize was subsequently conferred on Dr. Robert Cory for his valuable investigations of the dark problem connected with the practice of vaccination against smallpox, and the Middlemore Prize was awarded jointly to Mr. Berry and Mr. Adams Frost, whose essays stand in the first rank, and were found to be of equal merit.

The 1887 meeting of the International Medical Congress is an uppermost topic in private conversation, and the large delegation present from the American Medical Association is working industriously among the profession here to create a favorable impression concerning the prospects of the Washington meeting.

The Americans here will leave Brighton with most pleasant memories of their cordial reception, and of the scientific work of this year's meeting of the British Medical Association.

SOCIETY PROCEEDINGS.

THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-second Annual Meeting, held at the Pequot House, New London, Conn., July 21 and 22, 1886.

(Specially reported for THE MEDICAL NEWS.)

(Continued from page 137.)

WEDNESDAY, JULY 21.—FIRST DAY.

EVENING SESSION.

DR. J. A. ANDREWS, of New York, read a paper on

THE EFFECT OF THE ELECTRIC LIGHT UPON THE EYE.

In considering the relative effect of different forms of illumination, that obtained from gas, from kerosene, and from the incandescent light were studied. The electric light gives the maximum of light with the minimum of heat. So far, the only cases of injury to the eye from the electric light have resulted from exposure in close proximity to the arc light. In most of these cases the existence of previous eye trouble was not excluded. The effect in these cases can be best explained as occurring through the sympathetic nervous system rather than as a result of mechanical or chemical influences. It is not established that exposure to bright light can produce a diffused iritis. No case of injury to the eye from the incandescent light has been reported and out of eleven hundred workers with the electric incandescent light examined by the reader, there was not one complaint. Those suffering with errors of refraction claimed that the sight was improved. The light used was from twelve to sixteen candle power, and provided a shade to protect the eyes. The incandescent light possesses advantages which are wanting in other forms of artificial light, the principal of which are its steadiness and the fact that its use does not contaminate the atmosphere.

DR. C. R. AGNEW, of New York, stated that the incandescent electric light had been introduced into the Columbia College reading-room. All who have made use of it have expressed great satisfaction with it.

DR. W. F. MITTENDORF, of New York, said that the paper confirmed the results of his observations. The popular feeling has been against the electric light as injurious, but his experience proves the contrary. The light is so perfect that it need not be approached so close to the eye, and the efforts of accommodation are less. On account of its steadiness, less work is thrown upon the iris than with the flickering light of the gas.

DR. WILLIAM S. LITTLE, of Philadelphia, then described

A METHOD OF OVERCOMING DIPLOPIA WHEN PRISMS ARE NOT FULLY EFFECTIVE.

Double vision, especially in the lower field, is a source of danger in walking. This is the case, even where prisms are worn, as the patient, by not holding the head forward, may look under the spectacle and thus see double. A case of an elderly person with modified paresis of the superior oblique was described. This had led to two severe falls. A prism of six degrees, properly placed, united the double images below the horizontal plane. Above this plane objects were single. Myopia also existed in one eye, and required the combination of a sphero-cylinder with a prism for the right eye to correct the myopia and diplopia. In order to prevent looking under the glass and seeing double in the lower field, the speaker had resorted to the following procedure: the sphero-cylinder correcting the myopia of the right eye had been ground opaque for one-sixteenth of an inch above the horizontal plane, so as to obliterate sight in the lower field of vision in this eye. There has been attached to the lower portion of the frame the wire network used in protection glasses. This is carefully adjusted to fit close to the face, the perforations in the gauze having been stopped by painting. Vision is thus cut off below and under the spectacle. In this way, vision for the affected eye is only through the upper part of the myopic correction, and the necessity for a prism is done away with. The other eye has its myopic correction, and is the one in which vision in all parts of the field is clear. The right eye is used in only the upper part of the field, where no diplopia exists. This is better than entirely closing the affected eye by a ground glass, and is found more effective than with the prism, as danger of falling by seeing double is prevented. The same method may be applied to a diplopia in any position in the visual field.

The spectacles, as made by Borsch & Rommel, were exhibited.

DR. W. F. MITTENDORF, of New York, reported

TWO CASES OF MOLLUSCUM CONTAGIOSUM

which had come under his notice in asylums for children. In the spring of 1885 a little girl, having one or two small warts on the eyelid, was admitted to one of these institutions. In a few weeks other children exhibited similar growths on the eyelids, in some cases spreading to the lips and to the nose. Within three months after the admission of the first case, twenty-seven children were more or less disfigured by this affection.

In the second institution as many as forty children were affected at one time. Some of these children were sent to board with a farmer. One of twenty thus sent out had molluscum. In a short time the affection spread to over half of the children. It also attacked the child of the farmer and his wife. In a number of cases the tumors involved other portions of the face, but they were most marked on the lids.

As soon as attention was called to the condition, engetic treatment did away with it. Excision with scissors and touching the base with nitrate of silver proved most satisfactory. Simply pressing out of matter is more painful than excision. Unless excision is employed, the disease is apt to return.

DR. MITTENDORF also described a case of

MELANOTIC SARCOMA OF THE CONJUNCTIVA AND CORNEA.

Mrs. H., aged forty-six, came under observation August 22, 1884. In April of that year a black spot appeared upon the lower part of the conjunctiva and was removed. When she came under observation two other tumors had appeared. They were about the size and shape of cucumber seeds. Two or three spots, looking as though ink had been dropped on the eyeball, were also noted. The tumors were movable and the conjunctiva surrounding them slightly congested. Otherwise the eyeball was normal and vision almost perfect. The growths did not affect the left eye, which was highly astigmatic. The patient was a strong, hearty woman, with no appearance of cachexia. There had been no injury to the eye, and the family history was good. The preaural glands and those of the neck were not enlarged. The tumors were removed, and the wound in the conjunctiva brought together with sutures. Healing took place rapidly.

Four months later she returned with two growths starting from the lower portion and the outer canthus of the same eye. There was also a small flat growth on the cornea not connected with the tumors. The tumors were again removed and the patient returned to her home.

In the spring of 1886 she again made her appearance with the eye closed. There was a small tumor the size of a cherry which had developed at the seat of the former growth. The tumor, with a portion of the conjunctiva, was removed. A preaural gland and some glands in the neck were found slightly enlarged. The general health remained good. She had, in fact, gained in weight since the previous operation.

Four or five weeks ago she returned with another growth. The eyelids could not be separated. An incision was made and the tumor removed.

Microscopical examination showed the growth to be a sarcoma with round cells. The melanotic appearance was chiefly due to hemorrhage in the parenchyma. Pigment granules were also present.

DR. H. D. NOYES, of New York, said that in a case of melanotic sarcoma on which he operated some years ago, the disease had not returned.

DR. H. KNAPP, of New York, had seen a number of these cases on which he had operated as carefully as possible, but they have all, after a variable period, relapsed.

DR. O. F. WADSWORTH, of Boston, referred to two cases of episcleral epithelioma which did not recur after operation.

DR. B. E. FRYER, of Kansas City, read a paper on

THE USE OF HOT WATER IN SOME OF THE CORNEAL AND CONJUNCTIVAL INFLAMMATIONS.

In this plan of treatment, the water is used at as high a temperature as can be borne. After a few hours a temperature of 140° can be borne. The water should not be of a lower temperature than this, and as much higher as the patient can stand. A method of using it is by fomentation with a napkin dipped into the hot water and not wrung out and applied to the closed eyelids. This is continued for half an hour at a time and repeated every one, two, or three hours day and night. It may also be applied by suspending a vessel above the patient and allowing the water to escape through a tube, thus keeping up a continuous action of the hot water. In some cases, the temperature may be raised almost to the boiling point. During the intervals between the applications, a cloth wrung out of hot water is allowed to remain over the eyes. In some cases of purulent ophthalmia, the hot water may be thrown into the conjunctival sac.

In purulent conjunctivitis this application cuts short the attack more quickly and safely than the use of ice-cold water. In gonorrhœal ophthalmia, it quickly lessens the swelling and diminishes the occurrence of ulceration of the cornea. If ulceration has commenced, it is less likely to progress and the amount of cicatricial tissue is lessened. In these cases, he occasionally used instillations of sublimate solution and of finely powdered iodoform. This plan of treatment is not so readily applied in ophthalmic neonatorium. In catarrhal conjunctivitis and phlyctenular ophthalmia, it is a good adjuvant. In acute and chronic keratitis it is useful. Its most marked effects are seen in corneal ulcer. The small amount of opaque tissue left is astonishing. The pain and photophobia are also diminished by the hot water.

DR. WILLIAM F. NORRIS, of Philadelphia, had seen good results from the use of hot water in gonorrhœal ophthalmia, although he had not used it at a temperature higher than 120° or 125°. It is a comfortable application, and several apparently unfavorable cases have got well under its use.

DR. SAMUEL THEOBALD, of Baltimore, said that he had not used hot water in purulent troubles, but in interstitial keratitis and specific keratitis its use had been beneficial. It favors absorption of the opacity of the cornea. Constitutional treatment and the use of atropia accompanied the applications of hot water.

DR. WILLIAM F. NORRIS, of Philadelphia, read a paper on

ASTHENOPIA, AND THE CHANGES IN REFRACTION IN ADOLESCENT AND ADULT EYES.

He first referred to the changes occurring in the shape of the eyeball at various periods of life. It is regarded by some as not necessary to correct slight errors of refraction, but the author considered their correction as of great importance when they produce asthenopia. By removing the trouble, the congestion and softening of the eye are removed and the lengthening of its visual axis is prevented. The congestion and softening were regarded as important factors in the production of astigmatism and conical cornea.

A number of cases of diminishing hypermetropia and

of hypermetropia passing into myopia, were described. Diminishing hypermetropia and increasing myopia are simply different stages in a process essentially the same. They are both the result of softening of the eyeball and slow distention in the direction of the visual axis. Careful correction in these cases is one of the best means of preventing their further progress. The eyes should be carefully measured under the influence of a mydriatic. The enforced rest of the eye, thus obtained, is an important aid in diminishing the congestion. During the dilatation of the pupil, dark glasses should be used, even in a mild light. All cases of hypermetropia, where there is a decided difference in level between the disk and the macula, should be carefully watched.

DR. E. GRUENING, of New York, referred particularly to a class of cases in which the patient on arising has pain in the eyes with photophobia, passing off in an hour or two, and is not able to fix on any object for any length of time. There is also lachrymation. When he finds such symptoms, he almost always finds evidence of nasal disease. The nasal reflex plays an important part in our modern pathology. All the affections due to nasal irritation are increased by the recumbent position, for this favors congestion of the erectile tissue of the nose. The speaker thought it improbable that eyes which have rested all night would manifest painful sensations, and this fact tends to exclude ordinary asthenopia in these cases. He has treated these patients by removing the nasal trouble; and in a series of 200 cases, 150 have been benefited, while the remaining 50 have passed from observation.

THURSDAY, JULY 22.—SECOND DAY.

MORNING SESSION.

DR. S. THEOBALD, of Baltimore, presented a paper on

THE AMBLYOPIA OF SQUINTING EYES: IS IT A DETERMINING CAUSE OR A CONSEQUENCE OF THE SQUINT?

He criticised the views of Alfred Gräfe and Schweigger, that the amblyopia exhibited by squinting eyes is a congenital defect, and argued in favor of the older view that the amblyopia is secondary to the squint, and due to the mental suppression of the visual image formed in the squinting eye. He stated, in the first place, that it is a mistake to call this variety of amblyopia "amblyopia exanopsia," as the ambloypia is not due simply to want of use of the squinting eye, but to an active cerebral process which induces a much more rapid loss of vision. Schweigger and Alfred Gräfe, who both accept the theory of acquired retinal identity, believe that squint is often due to a non-establishment after birth of retinal identity. If this were the case, as there would be, from the first, no stimulus to binocular fixation, the squint ought to develop in early infancy, whereas it is rarely met with then, but usually makes its appearance about the fourth or fifth year. They both lay stress also upon the fact that some squinting eyes retain good vision for years, while others, which have squinted but a short time, are highly amblyopic, and that this contradicts the theory that the amblyopia is produced by the squint. These observations, however, do not conflict with the suppression theory, for as the amblyopia doubtless develops during the forming stage of the squint, it is reasonable to suppose that in some cases it will have reached a high grade by the time the squint is fully established; while, on the other hand, a marked difference in the refraction of the two eyes (because then the diplopia will be less annoying) will explain the retention of vision in the squinting eye.

The most convincing argument, however, in favor of the suppression theory, is that the peculiar regional characteristics which the amblyopia exhibits, are of just such a nature as we should anticipate if this hypothesis be the correct one, but entirely inexplicable if we suppose the amblyopia to be a congenital defect.

Until more convincing evidence is adduced to sustain the congenital amblyopia theory, it was suggested that we ought to act upon the older theory, that the squint produced the loss of vision, and so give our patients the benefit of an early operation for the correction of this deformity.

(The paper will appear in full in THE MEDICAL NEWS at an early date.)

DR. H. D. NOYES, of New York, differed from the conclusions presented in this paper. His objections were based upon an experience and careful observation for a number of years. It has been claimed that before the development of the squint such patients have had binocular vision. There is no proof of this, and the evidence is against it. Again, he had the records of a large number of cases of monocular amblyopia, presumably of congenital origin, without lesion demonstrable by the ophthalmoscope, which have had no squint, although they may or may not have had hypermetropia. Binocular fixation after operation is not infrequent; but, according to his experience, binocular vision is obtained in only one-fifth of the cases. It is rare to find material improvement in an amblyopic eye after operation.

DR. O. F. WADSWORTH, of Boston, agreed with the last speaker. A careful examination of this subject, ten years ago, convinced him that the amblyopia of squinting eyes is not due to disuse. At that time he had thought that he was alone in this view, but on looking up the literature of the subject, he found that Schweigger had said the same thing some years before. After operation, he thought that there is no decided improvement in vision. It is sometimes said that there is, but this is largely due to the fact that the vision is not carefully measured before the operation. He had never been able to increase the vision to any extent after operation.

DR. GEORGE C. HARLAN, of Philadelphia, said that it had been his experience that vision is not materially improved by operation. He had, at times, attempted to compel the patient to use the affected eye by keeping the fixing eye under the influence of atropia for a long time. In some cases, he had succeeded in improving the vision in the amblyopic eye. He related one case, in which the vision was increased from $\frac{20}{CC}$ to $\frac{20}{L}$. Some two years later this was still retained, the axis having become straight under the use of correcting glasses.

DR. W. F. MITTENDORF, of New York, remarked that where there is a central scotoma we cannot expect any improvement from an operation, but there are certain cases in which vision is at once improved. He had thought that this was to be explained by the removal of the undue pressure exerted by the internal and external

recti muscles, which is different from that exerted by the superior and inferior recti. Taking away this pressure puts the eye in a more favorable condition, and we should expect better vision.

DR. SAMUEL THEOBALD, of Baltimore, regretted that Dr. Noyes was absent when the early part of his paper was read, for he had taken up the objections to which reference had been made. In regard to the restoration of binocular vision, his test has been as follows: If we cover the eye which formerly squinted, we find that there is still a balance of power in the internal rectus. If the amblyopia is not of too great a degree, the patient is directed to fix his eyes on a certain object. The squinting eye is then covered, and it at once turns in. When the covering is removed it again turns out, showing that it did so to obtain an image upon a corresponding point of the retina. He considered this conclusive evidence of the restoration of binocular vision. In regard to vision, he agreed that where there is a considerable amount of amblyopia, there is no appreciable improvement after operation; but this had no bearing upon the question whether the amblyopia is congenital or due to suppression.

(To be concluded.)

CORRESPONDENCE.

FARADIZATION IN EXTRA-UTERINE PREGNANCY.

To the Editor of THE MEDICAL NEWS,

SIR: Will you allow me to make a brief reply to my friend Dr. Harris concerning the points which he discusses after reading my letter to the Obstetrical Society of Philadelphia, at its meeting on May 6th, reported in THE MEDICAL NEWS of June 12, 1886.

1. Dr. Harris says that "this fœticidal method is a valuable method of saving women when in great danger of death from rupture of the fœtal cyst and internal hemorrhage." Dr. Harris evidently does not understand the pathology of these cases, because it is perfectly impossible to recognize them before rupture has taken place. In fact, women do not draw attention to their troubles in the pelvis until trouble arises, and as all extrauterine pregancies arise in the Fallopian tube, and as they give rise to no symptoms at all until rupture has taken place, when the onset of pain, exhaustion, and other symptoms, is sudden and violent, Dr. Harris's proposal of fœticide cannot be called into use until the danger has already become far advanced, and this danger can only be met by prompt abdominal section. To look upon it, therefore, as a method of preventing rupture is absolutely absurd, and cure of the rupture is only possible when the rupture has taken place.

2. Dr. Harris here again speaks as one without practical experience in such cases when he says that "we do not propose to act upon the fœtus after it has escaped into the abdominal cavity, unless the fœtus should be very small, and be easily accessible to the pole of the battery placed in the vagina." Dr. Harris knows little about the abdomen if he thinks he can determine when a fœtus has escaped from its cavity or when it has not, even when it is a fœtus at full term. Such a kind of proposal is very like searching for a needle in a truss of hay. He will easily see the force of this objection if he will kindly look at my records, now amounting to twenty-five operations, for extrauterine pregnancy at the time of rupture. In only two have I been able to find the fœtus, although in every case I have found the placenta. Finally, it is not the fœtus which is the source of danger but the torn placental vessels, and for them his galvanic needle would be a farce.

3. "Primary laparotomy," says Dr. Harris, "so far as we know of the operations, has been fatal in fifteen out of nineteen cases." Only one case out of my twenty-five died, and that was because it happened to be my first case, and I did not understand the operation; all the other cases have got well. This is a much better result than where the fœtus dies, or is killed and suppurates; and I do not think Dr. Harris mends his case much when he says that "the entrance of fœtal débris into the bladder is not necessarily fatal, as in the cases narrated by Mr. Tait, for Parry refers to nine cases, four of which recovered." It is not necessarily fatal, clearly, but it is nearly so as may be. Fifty-five per cent. mortality is high enough for me.

4. Dr. Harris says that "Mr. Tait appears not to be aware of the fact that cases of prolonged ectopic gestation have been comparatively numerous, as witness the following partial record," and he gives archæological extracts of twenty cases. Now, it is quite clear that Dr. Harris is far more of a scholar than a surgeon. Some of the cases that he quotes I was quite familiar with, but I have neither time nor inclination to trudge through musty old volumes for useless extracts. Prolonged ectopic gestation is of itself so extremely remarkable that its successful issue is likely, I think, to attract extraordinary attention, and we get assured therefore that every case which has come under observation has been published. But it is just here that the scholar gets wrong, and the surgeon keeps right. The surgeon knows that there are hundreds and thousands of these cases in which the gestation has not gone on to a successful issue, but has ended rapidly and with disaster, and these fatal cases are not published. I am sure of the first kind there is probably one to a hundred of the other which die disastrously, and are either not recognized, or not published if recognized.

I admire very much Dr. Harris's patient investigation of statistics, but I wish he possessed a little more of the ordinary surgical acumen.

Finally, let me say about this absurd proposal of electrolysis that it has already met with well-merited ridicule. A story came to me only yesterday from Buffalo, wherein an eminent specialist, who has repeatedly stated that he has had six successful cases of the electrolytic treatment of ectopic gestation, was made to discover that his sixth case was nothing of the kind, and that it never had been a case of ectopic gestation at all, and, therefore, there is abundant reason to suspect from this story that none of the other five were other than mistakes arising out of well-intentioned but misdirected enthusiasm.

The conclusion I arrive at about this proposed electrolysis is that, previous to rupture, cases of tubal pregnancy give rise to no symptoms, and, therefore, are not caught. When rupture takes place the danger is from hemorrhage, and that can be arrested only by tying the vessels of the tube and removing it. To try to stop this hemorrhage with galvanopuncture will be just as effectual as bathing the patient with tar water. When

the rupture takes place into the broad ligament (the only cases which go on to full term) we have no right to murder the child, seeing that both mother and child have been and can be saved by abdominal section.

I am, etc.,

LAWSON TAIT.

BIRMINGHAM, ENG., July 25, 1886.

NEWS ITEMS.

LUNACY IN ENGLAND.—The report of the Commissioners of Lunacy for 1885 shows that there are now 80,156 lunatics in Great Britain and Ireland, being a ratio to the population of 1 to 349. In the last year the number of lunatics has relatively decreased.

DR. BREISKY has succeeded Professor Späth, of Vienna, who has retired from the chair of obstetrics.

A PUBLIC DISINFECTION INSTITUTE has been opened in Berlin under governmental direction. There are chambers capable of completely disinfecting the clothes of two hundred families daily. All conceivable apparatus for thorough disinfection is provided.

DR. R. P. HOWARD, having resigned the position of Vice-President of the International Medical Congress to be held in Washington next year, Dr. J. A. Grant, of Ottawa, has been appointed to the same office by the Executive Committee.

SURGEON GENERAL OF THE ARMY.—On August 6th, the President retired Surgeon-General Murray on age, and designated Chief Medical Purveyor J. H. Baxter, as Acting Surgeon-General.

ETHER-TIGHT CORKS.—Corks may be rendered perfectly ether-tight by coating them with a solution prepared from four parts of gelatine, fifty-two parts of boiling water, and one part of ammonium bichromate (added to the filtered gelatine solution), and then exposing them for a few days to sunlight.

LEPROSY.—Dr. George L. Fitch has for five years been in charge of the lepers in the Sandwich Islands. He gives it as his opinion, based on careful study and attempts to inoculate the virus into healthy persons, that leprosy is not a contagious disease.

DR. WILLIAM L. DUDLEY, late of Miami Medical College, Cincinnati, has accepted the Chair of Chemistry in Vanderbilt University, Nashville, Tenn.

BUTTER AND ITS SUBSTITUTES.—Mr. J. E. Long, in a recent paper on the microscopic examination of butter, arrives at the conclusions that, "taking all things into consideration, we have no absolutely certain method of distinguishing between butter and some of its substitutes, and that of all methods proposed, the microscopic are perhaps the least reliable." These conclusions are similar to the ones reached by Prof. H. A. Webster, but are directly opposed to those of Dr. Taylor.

COLD AND PUTREFACTION.—Recent researches by Messrs. Coleman and McKendrick, of England, on the effects of extreme cold on certain microbes, especially those concerned in putrefactive changes, show that the organisms are killed by exposure to a temperature of from 80° to 120° F. below zero, though their germs are unaffected, and speedily develop after an increase of temperature.

A SANITARY CONVENTION at Big Rapids, Mich., under the auspices of the State Board of Health, will be held on Thursday and Friday, November 18 and 19, 1886.

INTERNATIONAL PROFESSIONAL COURTESIES.—At the last meeting of the Sei-I-Kwai a vote of thanks was passed to Dr. H. C. Wood, of Philadelphia for the donation of 105 volumes of valuable medical works to the Tokyo Medical Library; a vote of thanks was also passed to Dr. Robert T. Wilson, of Baltimore, for the donation of nearly two hundred volumes, including a complete set of *Ziemssen's Cyclopædia*, to the Library.

THE CASE OF DR. WATSON.—In a suit brought by the Society for the Prevention of Cruelty to Animals, of Jersey City, against Dr. Beriah A. Watson, a surgeon of eminence of that place, to recover damages for alleged cruelty to dogs in experimental surgery, Justice Lane gave judgment, July 20th, against Dr. Watson, and an appeal is to be taken to the Court of Common Pleas.

MRS. LELAND STANFORD, wife of the millionaire Senator from California, has purchased a piece of land on Washington Avenue, Albany, adjoining the site of the old Lathrop mansion, and it is stated that on the whole property she will erect a handsome and well-appointed hospital for old men and women, as a memorial of her parents.

ORGANIZATION OF INDIA RUBBER.—M. Professor Van Lair, of Liège, announces to the Académie de Médecine the curious fact that a tube of caoutchouc placed between the two ends of a cut nerve becomes vascularized, the nerve-fibres prolong themselves into it, and finally the two ends of the nerve unite, the caoutchouc disappearing.

CULTURE OF VACCINE IN MUSHROOM JELLY.—Experiments have recently been made by the Finnish Medical Society in the cultivation of artificial lymph in sterilized mushroom jelly. The artificial lymph has also been dried and used for vaccination. A child was exhibited at one of the meetings who had been vaccinated by the artificial lymph in the arm. There were nine vesicles in three rows. They were all well developed, and did not present any dissimilarity, although two rows had been produced with lymph taken from different parts of the culture glass, and the third row with dried lymph from the same glass. Former experiments had not been so successful, owing to the resistance of the lymph to the effects of drying. The cultivation of the lymph has now been brought to a more satisfactory point.

HOW FAR CAN ONE SEE?—A discussion is going on in Europe concerning the distance at which large objects on the earth's surface may be visible. Emil Metzger mentions that he once saw, with some difficulty, Keizerspickt, in Sumatra, when distant 110 English miles; and he also made out Gug Merapi, in Java, when 180 miles away. From the Piz Muraun, near Dissentis, E. Hill has seen Mont Blanc, the intervening

space measuring about 110 miles. J. Starkie Gardner states that Mont Blanc is visible from the Piz Langard, though distant about three degrees. In Greenland, Mr. Whymper beheld a mountain from which he was separated by 150 miles; and from Marseilles, Zuch saw Mount Canigon at a distance of 158 miles. The whole range of the Swiss Alps has been looked upon by J. Hippisley while 200 miles away; while Sir W. Jones has affirmed that the Himalayas have appeared to view from the distance of 224 miles.

THE CONSUMPTION OF TEA.—The popular idea that the people of Great Britain consume more tea on an average per head of population than any other country in the world, is now shown to be erroneous. The Australian colonies and New Zealand (according to one of the Indian journals) drink far more tea per head of population than the British Islands. The Australians come first, with 7.66 pounds per head; the New Zealanders next, with 7.23 pounds per head; while the people of Great Britain, though appearing third in the list, consume only 4.90 pounds each. Newfoundland and Canada come next; while in the United States the consumption is only 1.30 pound per head; and in Russia, which is always regarded as a great tea-drinking country, the consumption is only 0.61 pound per head. Belgium, Sweden, Austria-Hungary, and Spain consume less than the other European nations; but there is not one nation on the Continent, with the exception of Holland, in which the annual consumption exceeds 1 pound per head. But in certain parts of the countries named, tea-drinking is much more common than in others. In certain Russian districts, especially, tea is drunk constantly and copiously; and it is this fact which has given rise to the notion that Russia is the most bibulous of all tea-drinking countries.

THE WATER-SUPPLY OF EUROPEAN CAPITALS.—Rome heads the list, with her 204,000,000 litres of pure water every twenty-four hours. Her population being 345,036, every inhabitant can dispose of 591 litres per diem. London comes next, for every one of whose 4,085,080 inhabitants there are 300 litres daily. Paris takes the third place, her population amounting to 2,240,124, and each inhabitant having for alimentary uses 58 litres per diem, and for secondary purposes 169 —a total of 227 litres. Berlin has 1,302,283 inhabitants, for each of whom there are 140 litres daily; Vienna 770,172 inhabitants, with 100 litres each per day; Naples 463,172, with 200 litres; and Turin 278,598, with 98 litres a head every twenty-four hours. A litre is a little more than 1¾ pint.

THE AMERICAN OTOLOGICAL SOCIETY AND THE PROPOSED CONGRESS OF PHYSICIANS AND SURGEONS.—At the annual meeting of the American Otological Society, held at New London, Conn., July 20, 1886, the following resolutions were adopted:

Resolved, That a Committee of *five* be appointed by this Society, which Committee shall be authorized to confer with members from other Medical Associations with regard to the organization of a convention or congress of such associations, said Committee to report at the next meeting of this Society.

Resolved, That it is the sense of this Society that nothing in this resolution shall be construed as implying the approval by this Society of any plan which shall involve the abandonment of its *independent* annual meetings at such time and place as it shall, from year to year, determine in accordance with its By-Laws.

EQUINE RELAPSING FEVER.—A very interesting report has been compiled by Veterinary Surgeon J. H. Steel, A.V.D., regarding a very fatal disease which broke out among transport mules in British Burmah toward the close of the years 1883 and 1884. The disease prevailed in the stations of Rangoon and Tounghoo, and carried off some 182 mules, representing a money loss of some 30,000 rupees. The fatalities at Tounghoo amounted to 50 per cent. of the total strength of the mules of the two infantry regiments, and at Rangoon the British Infantry Regiment lost one-quarter of its mules. These facts indicate the great importance of the disease as affecting the means of transport in war. Mr. Steel was specially deputed to investigate and treat the disease, and the report which he has prepared indicates great industry and acumen in collecting facts, and throws a flood of light on the nature and cause of the disease. Previous to Mr. Steel's inquiry, no definite conclusion had been arrived at on these points, and the fatalities were attributed to all sorts of conditions and causes. Mr. Steel set to work with thermometer and microscope, and showed that the disease was a true relapsing fever, probably resembling closely, although not absolutely identical with, the relapsing fever of man. Experiments proved the communicability of the disease by ingestion and inoculation to the dog, horse, mule, and monkey, and examination of the blood by the microscope revealed the existence of a parasite of the nature of a spirillum, very similar to the form found in the relapsing fever of man, and, like it, alternately appearing and disappearing during the relapses and intervals of the fever.

OBITUARY RECORD.—DR. FRANK HASTINGS HAMILTON died at his home in New York City on Wednesday morning last. His illness dates from December, 1883, when he was attacked with pulmonary hemorrhage, due to fibroid phthisis. Malnutrition combined with the pulmonary trouble gradually undermined his vitality and for the last two weeks he was confined to his bed.

Dr. Hamilton was born on September 10, 1813, in the old village of Wilmington, Vt., and after an academic education was admitted to the sophomore class Union College, and was graduated in 1830. Shortly after taking his degree at Union he began studying medicine with Dr. John G. Morgan, of Auburn. During the winter of 1831–32 he attended a course of lectures at the College of Physicians and Surgeons of the Western District of the State of New York at Fairfield, Herkimer County, and in 1883 received a license to practise medicine and surgery from the Cayuga County Medical Society. After practising two years in Auburn he took the degree of M.D. at the University of Pennsylvania, and in the same year began a course of lectures on anatomy and surgery in his office in Auburn.

In 1839 Dr. Hamilton was chosen to fill a vacancy in the professorship of surgery at the college in Fairfield, and in August of the succeeding year was made professor of surgery in the Geneva Medical College. In 1844

he made a tour of Europe extending over a period of seven months, and published accounts of his travels in *The Buffalo Medical Journal* of that year. Upon his return to this country he made his home in Buffalo and was appointed surgeon to the Buffalo Hospital of the Sisters of Charity.

Upon the organization of the Buffalo Medical College, in 1846, he was made professor of surgery and held this position until November 28, 1858, when he accepted the professorship of the principles and practice of surgery in the Long Island College Hospital and removed to Brooklyn. In April, 1861, he became professor of military surgery, fractures, and dislocations, and professor of clinical surgery in the Bellevue Hospital Medical College. He remained in these positions until May, 1868, when, upon the resignation of Professor James R. Woods, he was made professor of the principles and practice of surgery, with operations, and continued in this capacity until March 15, 1875, when he resigned.

His first publication was a *Treatise on Strabismus*, printed in Buffalo, in 1844. In 1860 he published the first edition of his *Treatise on Fractures and Dislocations*. This work, which, when first published, contained but 748 pages, reached its seventh edition, containing 1001 pages, in 1884, and is the best known work on the subject in the English language. M. G. Poinsot, of Bordeaux, translated it into French, and a portion of it was translated into German. Dr. Hamilton's *General Treatise on Military Surgery*, the first edition of which was published in 1862, and the second in 1865, is said to be the only book on military surgery written in this country, excepting a small volume from the pen of a Confederate surgeon, published shortly after the war at Charleston. The *Surgical Memoirs of the War of the Rebellion*, in two volumes, were edited by Dr. Hamilton, and published in 1871 under the direction of the United States Sanitary Commission. The first edidion of *The Principles and Practice of Surgery* was published in 1872, and the third edition, thoroughly revised, was issued early this year. Other works from his pen are: *Monograph on Fractures of the Patella*, *Health Aphorisms*, and *Medical Ethics*. In addition to these he prepared a number of papers on surgery, and was the inventor of twenty-seven surgical instruments, most of which are now in common use.

Dr. Hamilton's war record, and his professional relations to the case of President Garfield are well known.

Among his fellow practitioners Dr. Hamilton was always held in the highest regard and they availed themselves of every opportunity to show their respect for his abilities. In 1855 he was chosen president of the New York State Medical Society; in 1857 he was president of the Erie County Medical Society; in 1866 of the New York Pathological Society; in 1875 and 1876 of the New York Medico-Legal Society; in 1878 of the American Academy of Medicine; in 1878 and 1885 of the New York Society of Medical Jurisprudence; from 1880 to 1884 he was vice president of the New York Academy of Medicine, and in 1881 was made vice-president of the Woman's National Hospital. In 1868 he was made honorary associate member of the College of Physicians and Surgeons, and in 1869 the trustees of Union College conferred upon him the honorary degree of Doctor of Laws.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT OF THE U. S. ARMY, FROM AUGUST 3 TO AUGUST 9, 1886.

WOLVERTON, WM. D., *Major and Surgeon.*—Granted one month's leave of absence, to commence on or about August 15, 1886.—*S. O. 104, Division of the Atlantic*, August 7, 1886.

BENTLEY, EDWIN, *Major and Surgeon.*—Ordered from Department of Texas to the Department of the East.—*S. O. 179, A. G. O*, August 4, 1886.

APPEL, D. M., *Captain and Assistant Surgeon.*—Ordered from Department of the East to Department of Texas.—*S. O. 179, A. G. O.*, August 4, 1886.

MIDDLETON, PASSMORE, *Major and Surgeon.*—Granted leave of absence until September 10, 1886.—*S. O. 100, Division of the Atlantic*, August 3, 1886.

WHITE, R. H., *Captain and Assistant Surgeon.*—Ordered from Angel Island, California, to San Diego Barracks, California, relieving Captain and Assistant Surgeon Leonard Y. Loring—*S. O. 64, Department of California*, July 28, 1886.

LORING, LEONARD Y,, *Captain and Assistant Surgeon.*—Granted leave of absence for one month on surgeon's certificate of disability, with permission to apply for an extension of two months.—*S. O. 59, Division of the Pacific*, August 2, 1886.

ADAIR, GEO. W., *Captain and Assistant Surgeon.*—Ordered for duty as Post Surgeon at Fort Brady, Michigan.—*S. O. 103, Division of the Atlantic*, August 6, 1886.

GANDY, CHAS. M., *First Lieutenant and Assistant Surgeon.*—Granted leave of absence for one month, with permission to apply for one months' extension.—*S. O. 103, Division of the Atlantic*, August 6, 1886.

MERRILL, JAMES C., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon at Fort Klamath, Oregon.—*S. O. 130. Department of Colorado*, July 30, 1886.

BENHAM, ROBERT B., *Captain and Assistant Surgeon.*—Relieved from temporary duty at Fort Omaha, Nebraska, and ordered to Fort Bridger, Wyoming Territory.—*S. O. 97, Department of the Platte*, August 5, 1886.

RETIRED.

MURRAY, ROBERT, *Brigadier-General and Surgeon-General*, U. S. A., August 6, 1886.

APPOINTMENTS.

HARRIS, HENRY S. T., to be Assistant Surgeon with the rank of First Lieutenant, January 5, 1886.

WOOD, LEONARD, to be Assistant Surgeon with the rank of First Lieutenant, January 5, 1886.

BANISTER, WILLIAM B., to be Assistant Surgeon with the rank of First Lieutenant, January 26, 1886.

MASON, CHARLES F., to be Assistant Surgeon with the rank of First Lieutenant, May 5, 1886.

PROMOTIONS.

BARTHOLF, JOHN H., *Captain and Assistant Surgeon.*—To be Surgeon with the rank of Major, January 4, 1886.—*Mem. A. G. O.*, August 2, 1886.

KIMBALL, JAMES P., *Captain and Assistant Surgeon.*—To be Surgeon with the rank of Major, January 24, 1886.—*Mem. A. G. O.*, August 2, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING AUGUST 7, 1886.

HUTTON, W. H. H., *Surgeon.*—To proceed to Key West, Florida, for temporary duty, August 7, 1886.

BEVAN, A. D., *Assistant Surgeon.*—Ordered to examination for promotion, August, 1886.

WILLIAMS, L. L., *Assistant Surgeon.*—When relieved at Buffalo, New York, to proceed to Mobile, Alabama, for temporary duty, August 2, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING AUGUST 7, 1886.

RUSH, CHARLES D., *Passed Assistant Surgeon.*—Detached from the Receiving Ship "Franklin," and ordered to the U. S. S. "Pinta."

WILLSON W. G. G., *Passed Assistant Surgeon.*—Detached from the U. S. S. "Pinta," ordered home, and wait orders.